

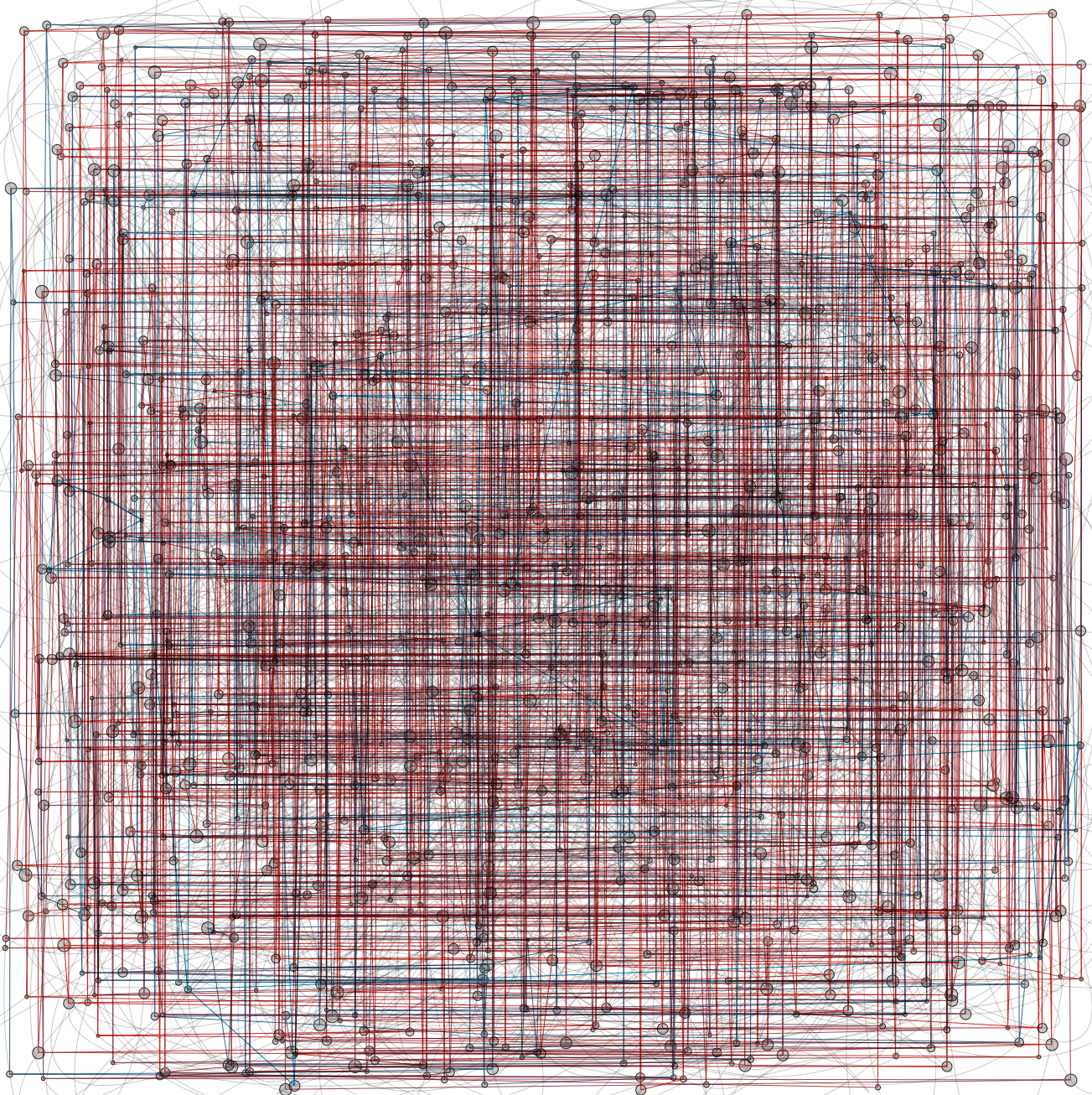


# Architecture Connects

**ASSOCIATION OF ARCHITECTURAL EDUCATORS**  
*4<sup>th</sup> international peer reviewed conference*

Oxford Brookes University, UK  
6–9 September 2017

Proceedings









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## INTRODUCTION

# Architecture Connects.

### *Strategies for the co-production of architectural knowledge*

Architecture Connects is an international peer reviewed conference on ‘strategies for the co-production of architectural knowledge’. It was hosted by Oxford Brookes School of Architecture, Oxford, UK in collaboration with the association of architectural educators from 6 to 9 September 2017.

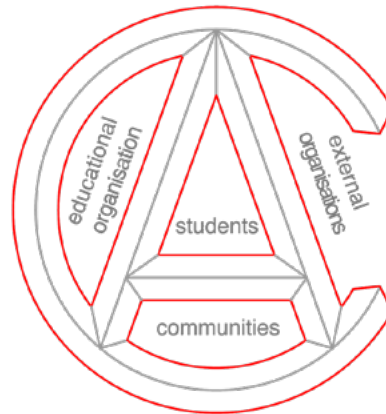
The conference expanded the communities of practice in architectural education that were established by previous aae conferences by developing the lively discourse that took place around the themes of social engagement, live projects and design research. The conference was organised in collaboration with Live Projects Network, Designbuild Xchange, Center for Public Interest Design, SEED Network, and Design Corps—international networks who share these concerns. These connections expanded the aae community and promoted the quality, relevance and diversity present in this area of contemporary architectural education.

The overall theme “Architecture Connects” explored positive dialogue and collaboration between architectural educators, students, practitioners, researchers, educational bodies, local communities and other disciplines. By viewing architectural education as a linchpin between universities and society, the conference mission was to improve communication and contribute new knowledge that is of mutual benefit to all parties.

### Conference Aims

- to stimulate dialogue between those operating design, pedagogical and research strategies beyond the educational institution, often requiring multi-disciplinary expertise.
- to disseminate best practice in the education of resilient and responsive architects and designers for changing society, culture and technology.
- to articulate multi-disciplinary methodologies for the creation of new knowledge and innovation through actions that engage external collaborators.
- to evaluate and disseminate the mutual benefits brought to society and universities by the creation of this new knowledge.





The conference highlighted architectural education and research that collaborates with people in real world contexts. This includes any external collaboration that engages academics and students in learning, practice or research in order to create new knowledge. These strategies are often inter-disciplinary, innovative, and subject to the change occurring in the world around them. This means that they are complex and closely connected to the society where they take place.

Examples include inter-disciplinary projects in external contexts; collaboration with external organisations, non-academic partners or local communities; live projects; design build education; public interest design; stakeholder engagement; field work; research-based education; practice-based learning; and participatory design practices.

The conference welcomed a diversity of contributions from established and early career researchers; teachers; students; practitioners; co-professionals; collaborators and experts from other fields. Work was presented in one of four formats to reflect the diversity of material being offered for dissemination. These were: paper presentations with question and answer sessions; an exhibition of case studies with informal discussion sessions; a film exhibition and screenings with discussion session; and interactive expertise-sharing workshops, one of which included a student live build taking place throughout the conference. A pop-up library featured delegates' publications and showcased their work.

Selected contributions to the conference will be published in a special "Architecture Connects" issue of *Charrette*, the aae Journal.

#### Conference Themes:

- |            |                 |             |               |                  |
|------------|-----------------|-------------|---------------|------------------|
| ▪ Agility  | ▪ Co-production | ▪ Identity  | ▪ Pedagogy    | ▪ Resilience     |
| ▪ Activism | ▪ Creativity    | ▪ Inclusion | ▪ Performance | ▪ Responsibility |





## The association of architectural educators

The aims of the association of architectural educators (aae) are:

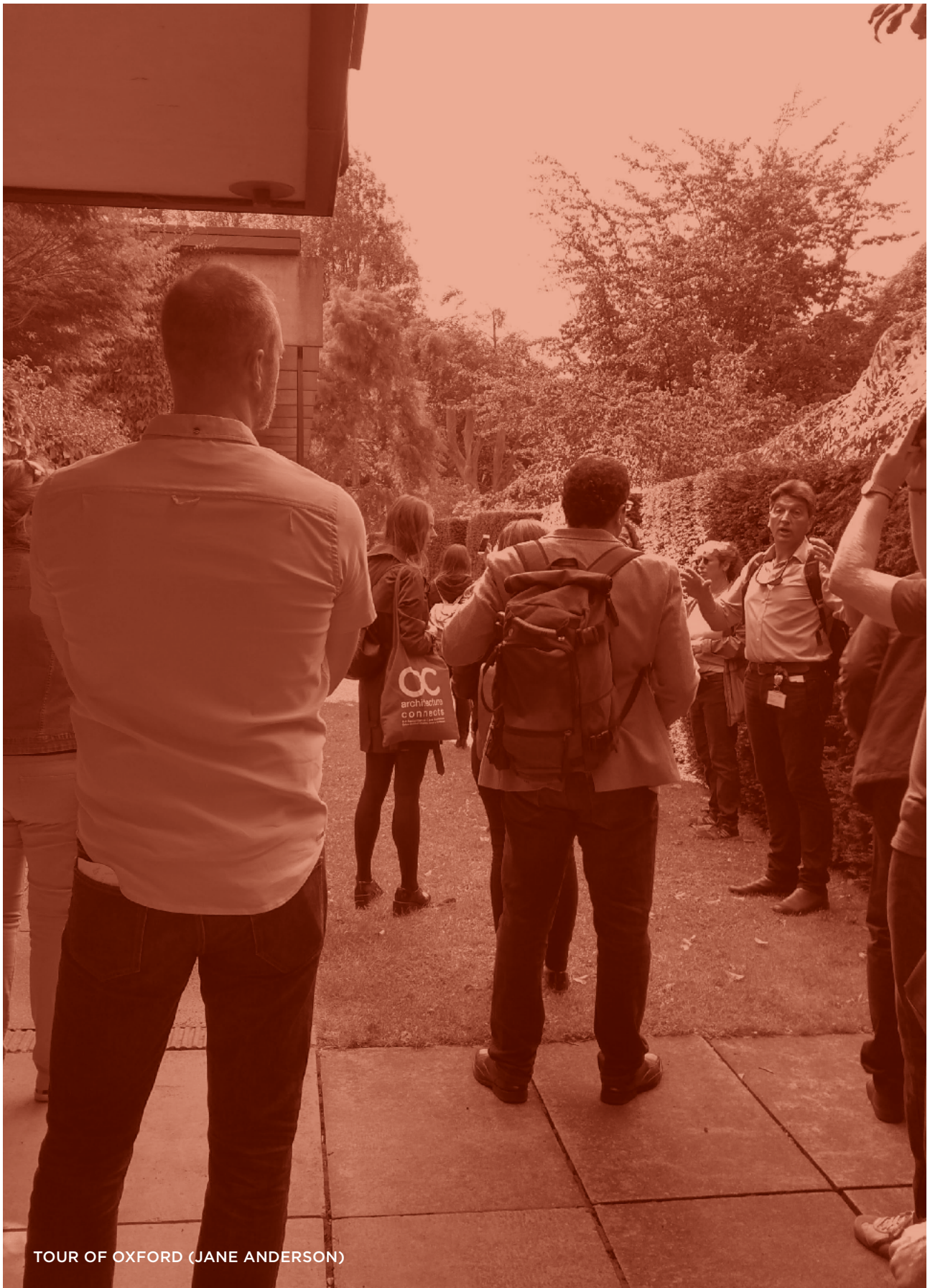
- To develop, support and represent communities of practice and learning in architectural education in the U.K. and Ireland.
- To foster inclusive dialogues between the aae community, students and employers, and educational and professional bodies.
- To encourage research and scholarship of teaching and learning in architectural education through critical and reflective discourse.
- To promote the value, richness, quality, and diversity inherent in architectural education.

*“I really welcome the formation of aae. Architectural education has lingered for too long as a set of received practices, and it is important to have bottom-up moments like aae which open the processes up to critical and constructive discourse.”*

– Professor Jeremy Till,  
Head of Central Saint Martins  
and Pro Vice-Chancellor of University of the Arts London.

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TOUR OF OXFORD (JANE ANDERSON)

## KEYNOTE SPEAKERS



### Dr. Tatjana Schneider

Dr. Tatjana Schneider is a researcher, writer and educator based at the School of Architecture in Sheffield, UK.

She studied in Germany and Scotland before gaining a PhD from Strathclyde University, Glasgow, and has taught at schools of architecture in Germany, Austria, Switzerland, the Netherlands, Italy, across Scandinavia, India and China and has held a Professorship at Hafencity University Hamburg in 2014/15.

In 1999 she co-founded the workers-cooperative 'Glasgow Letters on Architecture and Space' (G.L.A.S.) which – through design activity, graphic works and writings – questioned & suggested alternatives to the dominant production of space; and, in 2007, was co-founder of the research centre 'Agency' at the School of Architecture, The University of Sheffield.

She is the (co)author of 'Spatial Agency. Other Ways of Doing Architecture' (Routledge: 2011), Flexible Housing (Architectural Press: 2007), 'A Right to Build' (2011), (co)editor of 'Agency. Working with Uncertain Architectures' (2009) and the journal glaspaper (2001-2007). She has lectured widely on the changing role of architects and architecture in contemporary society, (architectural) pedagogy and spatial agency.

Her current work includes a project on innovative housing policies and programmes in Germany and Switzerland; a research and teaching exchange programme between universities in China, India, South Africa and the UK which investigates the challenges for design education in the context of wider global challenges; and, a trans-European cooperation on the development of transformative urban strategies in the context of austerity policies and public sector funding cuts.

## KEYNOTE SPEAKERS



## Prof. Carlos Hernández Correa

Prof. Carlos Hernández Correa is a Colombian architect, urban designer and educator based at the Faculty of Architecture and Design of the Pontificia Universidad Javeriana of Bogotá in Colombia (PUJ). He has over 30 years of experience in both practice and academia and completed numerous award-winning projects. He studied at the Universidad de los Andes in Bogotá then started his professional life co-founding Taller de la Ciudad and later moved on to be a partner of EHM (Esguerra, Hernandez, Mazzanti). With these practices he developed a wide range of projects and masterplans of national recognition, including Barranquilla Customs building (Winner of the Colombia Biennale 1994), Central Bavaria Park (Winner of the Colombian Biennale 1996), Bogotá Pedestrian Bridges (Winner of Lápis de Acero, 2002) and Tercer Milenio Park (Colombian Biennale 2008).

During his 30 years in academia, he has been Professor of Architecture of Universidad de los Andes for 12 years, from 1986. Since 1996 he has been the Director of the International Student Program (PEI) and a Professor of the Faculty of Architecture and Design at PUJ. He has been invited as a visiting professor of architecture and participated in workshops and seminars all over the world including the Pratt Institute in New York, Architecture Institute of Venecia IUAV, International School of Architecture of Catalunya, University of Buenos Aires, Catholic University of Chile and the School of Architecture in Mendrisio. Current areas of research activity include the use of public space in vulnerable communities; urban planning; and energy conservation.

Carlos founded the PEI program in order to connect international and interdisciplinary efforts in the production of new knowledge. Searching for imaginative solutions to the multiple social, economic, political and environmental issues generated by the way the territories and cities are occupied by contemporary society. PEI's methodology is based on the dynamics of 'collective intelligence'; connecting knowledge of different people through workshops that aim to develop specific proposals to local issues. The concept is that small scale interventions can generate large impact. PEI projects have been awarded national and international recognition such as the 'Palomino Society Under Construction' which was awarded the Colombian Biennale of Architecture and Urban Design Prize in 2012 and also the Latin American Architecture Biennale in Cadiz 2012.

PEI International Student Program: <http://peilab.wixsite.com/peilab>



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# OXFORD BROOKES UNIVERSITY

Warmest thanks to advisers, committee members and student ambassadors for their insight, commitment and ingenuity in making the conference such a success.

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ARRIVING FOR DINNER AT WOLFSON COLLEGE (MATT BROWN)

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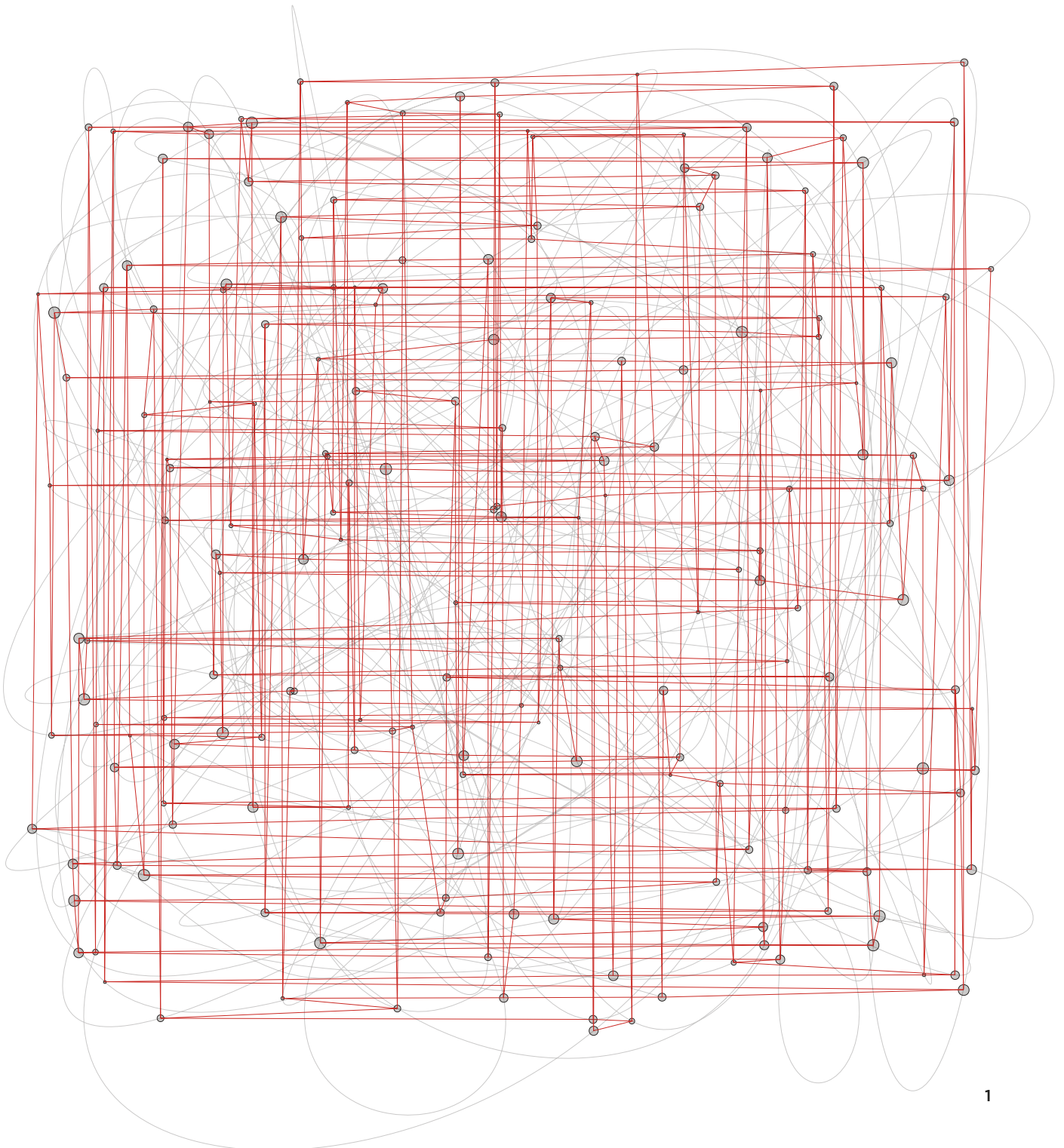






## CHAPTER 1

# Papers: Full Paper Peer Reviewed Track



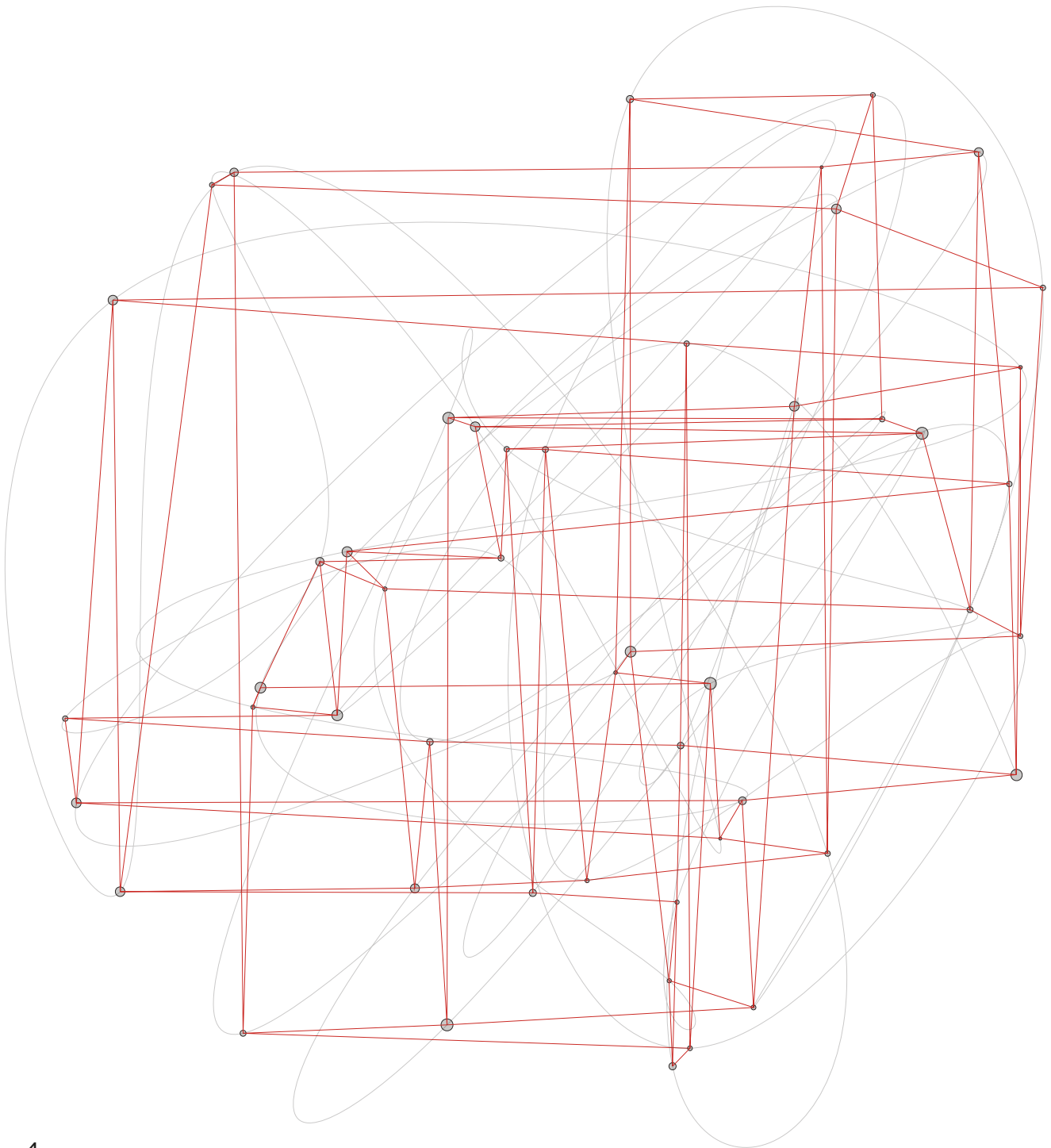








## 1.1 CO-PRODUCTION



# Understanding the value generated by a co-creation approach to the built environment.

AARON DAVIS.

*The University of South Australia.*

## ABSTRACT

Cities are increasingly being looked to for strategies to address climate change through fostering low-carbon living. This requires not only technological innovation, but also a program of behaviour change. A recent report by the World Economic Forum suggests that architects and other practitioners in the built environment are uniquely placed to facilitate collaborative co-creation approaches. While most architects work with end-users to some degree, a co-creation approach requires architects learn new skills to shift their treatment of users from subjects that are designed for, to partners that are designed with. This paper explores this challenge through the lens of practice theory, and highlights some of the tensions between co-creation and consultation, particularly with relation to application and practice. The preliminary results of a Value Network Analysis are presented as a part of a case study where co-creation was used as a framework to inform the briefing process, generate ideas, and provide feedback on plans during design development phases. The case included a series of co-creation workshops that were a collaboration between the author, Match Studio, and the not-for-profit community services organisation undertaking the construction project, as well as other collaborative methods. This paper focusses on the transfer of value described by the organisation's staff (the future end-users of the project) and the architects and other professional consultants. It finds a disparity between the reported value on the two sides of the spectrum, suggesting there may be some unrecognised value exchanges taking place of both positive and negative value. The exploration of these unrecognised value points is then explored through the case study interviews. This approach highlights where architects as co-creation facilitators may be able to better communicate anticipated value during project planning stages to help the program of co-creation activities achieve its intended outcomes. Finally, opportunities for further research are identified, including the use of virtual three-dimensional models in co-creation processes that engage end-users.

**KEYWORDS** architecture, co-creation, participation, value network analysis

The built environment is increasingly being looked to for strategies to address climate change by creating urban environments that support low-carbon living.<sup>21</sup> This requires not only technological innovation, but also a program of behaviour change that can help citizens lower the carbon impact of their lifestyles.<sup>42</sup>

The World Economic Forum (WEF) recently stated that 'for the cities of tomorrow, collaboration as well as co-creation and co-design capabilities are the new "must have" competences,'<sup>17</sup> and that 'citizen engagement is crucial to fully understand the problem and find solutions that meet the needs of

all the sections of the community.<sup>17</sup> The importance of designers in realising this vision has also been recognised by other organisations,<sup>13</sup> and by key authors in the field of social innovation.<sup>32</sup> In this environment, Architects are called upon to lead processes that engage with, and empower broad ranges of stakeholder groups.

The profession of architecture has a long history of user-engagement, and is familiar with working with users to varying degrees. However, the kinds of co-creation and co-design approaches discussed in the literature<sup>25, 30, 39</sup> are fundamentally different from traditional 'consultation', and require new skills and techniques to practice successfully. In a consultation process, end-users are typically asked to respond to a proposal through a series of formalised steps, while in a co-creation or co-design process, the user is seen as a partner in the ongoing development of a design.

This paper presents a brief exploration of the concept of co-creation and its potential application to projects in the built environment, then uses a case study to present the initial findings of a Value Network Analysis. This case study explores opportunities for architects and other practitioners in the urban environment to develop skills that could assist in the realisation of a successful co-creation approach.

## Background

The WEF's statements are framed in the context of the social, economic and environmental challenges that our cities will face in coming decades.<sup>17</sup> When viewed through the lens of Practice Theory,<sup>43</sup> this push for architects, designers, planners, and researchers to engage in collaborative approaches to design makes a lot of sense.

Practice Theory has been developed by a number of authors but the version of Practice Theory used in this paper is described by Elizabeth Shove.<sup>42, 43</sup> Shove's version of practice theory suggests that any practice (behaviour) is made up of three key elements: meanings, materials, and skills. In order to change a practice, all three elements must be developed in order to transition to the new practice. There is ongoing debate about the impact of cultural and social factors on practices, however, Shove's arguably reductive theory highlights the importance of developing narratives that can create new meanings around architecture, and skills for end-users to understand

and operate within complex building systems.

Architecture and other efforts toward sustainability in the built environment often focus on material change, rather than on the communication of 'why?', or the dissemination of the skills required to carry out the envisioned behaviour.

There is some academic literature emerging as to how the process of creating and adapting urban environments may be reconfigured to address the dimensions of meanings and skills that demonstrates how collaborative approaches to these questions can engender change across Practice Theory's three dimensions.<sup>44</sup> Importantly there are also resources that describe this concept in 'plain language', with Manzini's *Design, When Everybody Designs* describing concrete strategies for both facilitating co-creation processes (termed in his book as co-design), and steering general discourse.<sup>30</sup> These two important roles of the designer align with Practice Theory's skills and meanings dimensions.

## Co-creation

There is a broad range of terminology being used to describe these kinds of engaged design processes, with co-design, co-creation, co-production, citizen-led, and participatory-design emerging in various forums. Co-design and co-creation, and to a lesser extent co-production are often used interchangeably when referring to an ongoing and iterative process that engages end-users in a design or in the creation of an innovation beyond the concept design stage.<sup>10, 24, 25, 39</sup> The term *co-production* has recently gained some significance in the academic discourse around urban environments with Stevenson & Petrescu editing a special edition of *Building Research and Information* on the topic,<sup>45</sup> however, this paper retains the use of the term co-creation.

The term co-creation is relatively new in academic discourse, emerging largely since 2000, but has its roots in the Participatory Design movement in Scandinavia in the 1970s in which users were engaged in the design of early computer equipment for their workplaces.<sup>24, 46</sup>

The differentiation between co-creation and consultation or co-design lies largely in the theoretical and philosophical approach to engaging with users. Although many workshops are described as 'co-creation', as a methodology it is necessarily an ongoing



rather than singular process that continues beyond the concept-design phase;<sup>10</sup> as Sanders & Stappers put it, ‘co-design is a specific instance of co-creation’.<sup>39</sup> There is also a distinct shift in the users’ role, from being the subject of design to being a partner in design.<sup>37, 46</sup> This partnership however, must be approached with a view to creating shared value and be about more than just giving people a say, or giving people what they want.<sup>38</sup>

### *Architectural Practice*

Architects and designers of course have a long history of working with clients and user groups, however, the kind of collaborative approach to design required by co-creation and in many ways advocated for in Christopher Alexander’s *A Timeless Way of Building*<sup>4</sup> is not often found in architectural practice. While architectural practice is in-tune with, and focussed on stakeholder and client needs, the critical shift in a co-creation approach is the process of designing *with* rather than *for* stakeholders and users.

There is a growing body of evidence that this kind of collaboration, although possible, brings with it significant procedural, political, and power-based challenges.<sup>8, 34, 36, 44</sup>

Co-creation and participatory approaches in general are seen as a threat to the existing hierarchies of decision making,<sup>39</sup> and in the Australian urban context are used often as a way of granting legitimacy and helping to ‘sell’ projects to the public.<sup>27, 40</sup>

Level of participation	Type of participation
8. Citizen Control	Degrees of citizen power
7. Delegated Power	
6. Partnership	
5. Placation	Degrees of tokenism
4. Consultation	
3. Informing	
2. Therapy	Nonparticipation
1. Manipulation	

Figure 1: A Ladder of Citizen Participation  
(adapted from Arnstein, 1969)

Arnstein’s Ladder of Public Participation (Figure 1) was developed in the late 1960s in response to challenges in understanding why although public

participation in urban planning seemed like a good idea for all involved, it rarely achieved its purposes.<sup>4</sup> The spectrum describes outcomes rather than ambitions of consultation processes and ranges from forms of non-participation, to degrees of citizen power. On this spectrum, the aforementioned fear of giving over power to citizens assumes the ‘citizen control’ level of collaboration, while the reality of application in the Australian context often fits within the lower non-participation or tokenistic levels.

This stark disparity is telling, and highlights one of the significant challenges facing the application of co-creation approaches in the urban environment. Although there are many degrees of compromise between these two levels, the goal of working with rather than for, or treating users as partners rather than subjects, suggests that the ‘degrees of citizen power’ levels would constitute a true co-creation approach. This is supported by the WEF industry agenda statement that ‘it is imperative that citizen engagement is not just symbolic, but rather are equal participants in the development process.’<sup>17</sup>

In order to shift toward the ‘partnership’ level in practice, it is important to take an approach of critical pragmatism (see Forester) to ensure that the level of collaboration intended is what is actually achieved,<sup>16</sup> and, to understand the value of participation for all involved.

Some recent case-study research has built on von Hippel’s concept of lead users,<sup>49, 50</sup> focussing on the users’ ability to express latent need and give insight into their day to day experiences.<sup>9, 31, 36, 44</sup> Other research has focussed on the role co-creation can play in consensus building.<sup>15</sup>

Baccarne et al.’s suggestion that ‘the question is not any longer about why we should involve users, but how they should be involved’<sup>6</sup> points to the need to find ways of understanding users as partners rather than subjects.<sup>46</sup> Some go further, arguing that co-creation and other participatory design processes should extend the boundaries of design practice to question broader social, economic, and environmental issues alongside aesthetic, functional, and material dimensions.<sup>19, 29</sup>

In order to function in the kinds of roles envisioned in the WEF’s vision and to achieve successful co-creation approaches, architects, designers, planners, and researchers need to act as initiators, facilitators,



mediators, and consultants.<sup>36, 47</sup> This focus on the changing role of designers is well supported in the literature and requires new approaches to the practice of being a designer.<sup>30, 35, 39</sup>

To meet these challenges, borrowing from the parlance of Practice Theory, architects need to be equipped with their own set of new ‘meanings, materials, and skills’. For more than a decade, other disciplines have begun to shift toward the teaching of participatory design and co-design techniques as a part of their curriculum.<sup>39</sup> Evidence for the effectiveness of various facilitation tools and techniques continues also to grow, as does the number of toolkits being published.<sup>7, 14, 18, 28, 41, 48</sup>

Although the facilitation of successful co-creation ‘sessions’ is becoming an important part of an architect’s toolkit,<sup>11</sup> these facilitated processes are often solely focussed on the ‘materials’ component of practice.<sup>23</sup> This is in no small part due to the challenge Architects face of undertaking simultaneous collaborations with a broad variety of stakeholders and users, as well as the increasingly large number of specialist consultants involved in construction projects.<sup>39</sup>

Empirical analyses demonstrate quantitative evidence for collaborative processes generating ‘more ideas’ and being of more use to designers than traditional consultation methods.<sup>9, 15, 31</sup> However, when working on projects with ambitions to have a broad range of social, environmental, and economic impacts, it is also important to understand and plan the ways in which the process can generate social, interactional, and networked value that may not be captured by these quantitative approaches.<sup>5, 33</sup> This makes it is important for architects and other professionals involved in facilitating these processes to understand these forms of value as it may shift or realign their objectives when planning and reflecting on co-creation activities.<sup>12</sup>

To this end, this research presents results from a case study project in Adelaide, South Australia, using interview data and a Value Network Analysis (VNA) framework to describe some of the types of value, both positive and negative, that are being generated and exchanged through the co-creation process.<sup>2, 3</sup>

Value Network Analysis (VNA) is a form of social network analysis first described by Verna Allee almost two-decades ago.<sup>2</sup> VNA focusses on capturing the exchanges that take place through the connections

between human and non-human members of a network. The mapping process has its roots in Latour’s Actor Network Theory<sup>26</sup> with events, processes, and other ‘black-box’ systems mediating contact between participants in the network. In contrast to Actor Network Theory, VNA focusses on understanding what is generated through a process rather than the specific form of the process itself.

### **Case Study: UCity**

UCity is a sixteen-storey mixed-use development for a community services organisation in the centre of Adelaide, South Australia. The organisation partnered with the researcher and Match Studio at the University of South Australia to explore some of the opportunities that could arise from the use of an iterative and ongoing co-creation approach to their engagement of the building’s end-users.

### **Case Study Protocol**

End-users were invited to participate in this project through a series of briefing-interviews, co-creation workshops, and information sessions. The researcher was present at four co-creation workshops, three of which the researcher facilitated or co-facilitated, and one of which was facilitated by the architecture firm; the information sessions were facilitated by the project management team, the CEO of the organisation, and the architecture firm; the briefing-interviews were carried out by the project management consultant prior to the researcher’s involvement in this project. Although the information sessions and briefing interviews do not satisfy the criteria of being co-creation activities in isolation, they are included in this study because they formed a part of the overarching engagement process and therefore cannot be separated from the workshops that explicitly employed co-creation.

The co-creation workshops were run with professional actors deliberately treated as equal participants with end-users, while the other activities were conducted according to standard industry practices.

Upon construction commencing, those who had participated in any of these processes were invited to participate in a follow-up interview with the researcher to discuss their experiences resulting in 20 x 45-60 minute individual and group interviews.

These semi-structured interviews asked participants some control questions about their knowledge of the concepts of co-design, co-creation, and participatory design to establish their level of previous experience in this area. Participants were then asked about their experiences, both positive and negative of the process, and professional actors (the architects, project management firm, and internal project management team) were asked to compare their involvement with other projects they had been a part of.

The interviews then shifted to a guided network mapping process, using the VNA framework described by Allee<sup>3</sup>. Participants were directed to map their position in the construction project, defining the 'actors' and 'events', then tracing their connections. Finally, participants were asked to consider what value, both positive and negative, they were contributing to the other actors through each 'event' and what value they were receiving from the other actors through these events. This mapping exercise resulted in a rich data set that describes a very complex network of value exchanges that has taken place through the co-creation activities so far.

### Case Study Discussion

What follows are some initial findings about the relationship between future end-users, and the professional consultants (Architects, Engineers, Project Management, etc.). While it would be preferential to distinguish between architects and other professionals involved in these processes, in the interview process, it emerged that many participants could not distinguish between these professional consultants.

The interviews and network mapping process generated a broad range of descriptions of types of value. While some forms of value were described by only one participant, many were repeated across several participants. These forms of value have been broken down by participant type and whether it was a value the participant was contributing to, or receiving from, the co-creation process.

Figures 2 and 3 summarise the types of value described by participants categorised as end-users, while figures 4 and 5 summarise the types of value described by the professional consultants. The responses are separated in this way because

participants were asked first about the value they were giving to the process and to other participants in the process, then about the value they were gaining from the process, and from other participants in the process.

While the variation in forms of value described through the mapping and interview process can in part be explained by the differing sample sizes of the end-user group (n=14) and the professional consultant group (n=3), when grouping the types value described into broader categories, there is some disparity in the perceptions of the kinds of value-flows that are taking place between the two participant groups.

Though subject to further investigation, the 9 broader categories of value exchange that emerged are as follows:

- *Concrete* value relates to specific design concepts and ideas. This includes specific designs for service improvements, the physical structure of the building, and interior features
- *Insights* relate to unique information that an individual is able to give. This includes both personal and professional insights.
- *Insights (-)* is negative value generated by insights, particularly where additional information creates conundrums or confusion about how to proceed.
- *Communication* value includes all forms of value related to communication processes. This includes updates about where the project is up to, and the provision of information to pass on to others.
- *Communication (-)* is negative communication value. This is characterised by information being delivered in an inappropriate way that cannot be understood or utilised by the other party.
- *Personal* value describes value that is recognised internally. This includes concepts such as a sense of worth, and positive inter-personal affirmation.
- *Personal (-)* is negative personal value. This includes negative feelings about involvement, and knowingly creating annoyance or wasting others' time.
- *Organisational* benefits are characterised as those forms of value that are of benefit to the organisation and to the user's interactions with the organisation rather than individuals. Key concepts in this category are change management and buy-in.
- *Other (-)* includes forms of negative value that arose, such as the distrust and conspiratorial

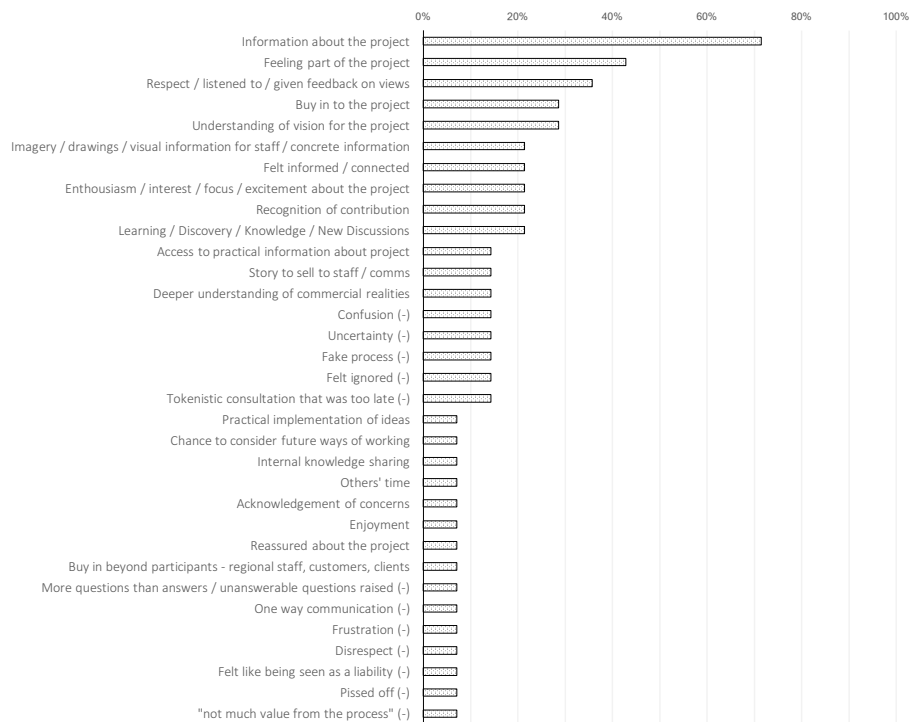


Figure 2: The types of value received from participating in co-creation activities as described by end-user groups (n=14)

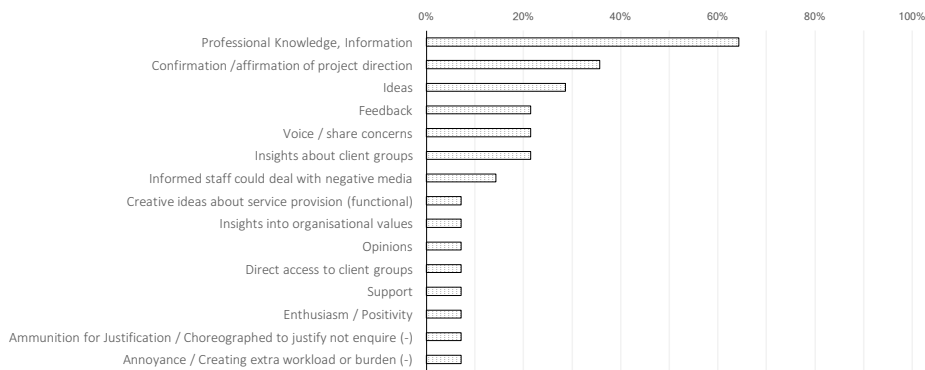


Figure 3: The types of value contributed to co-creation activities as described by end-user groups (n=14)

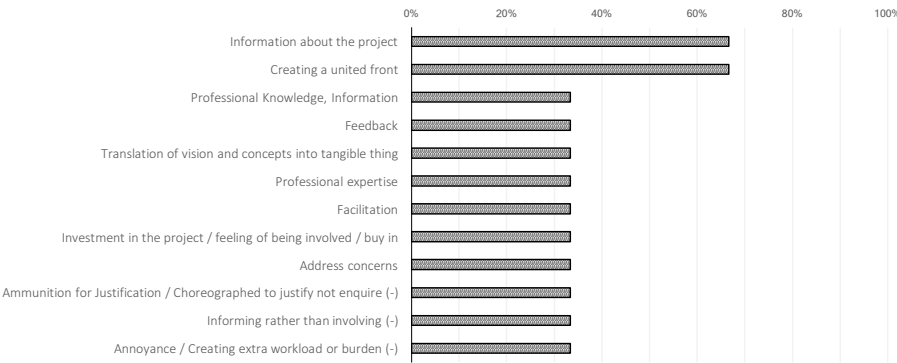


Figure 4: The types of value received from participating in co-creation activities as described by professional consultants (n=3)

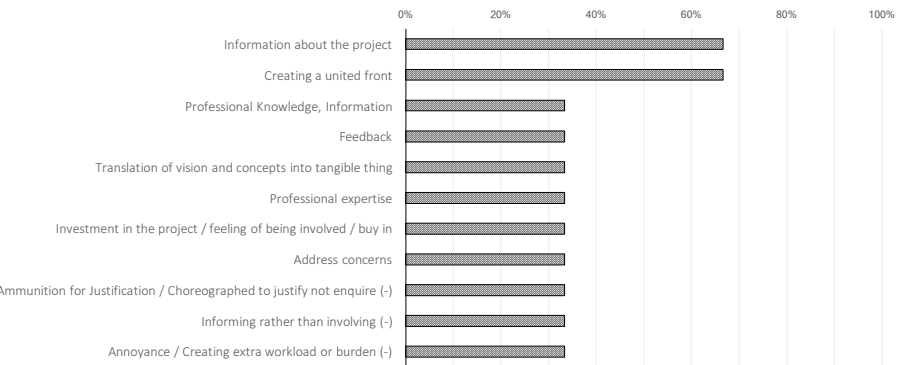


Figure 5: The types of value contributed to co-creation activities as described by professional consultants (n=3)

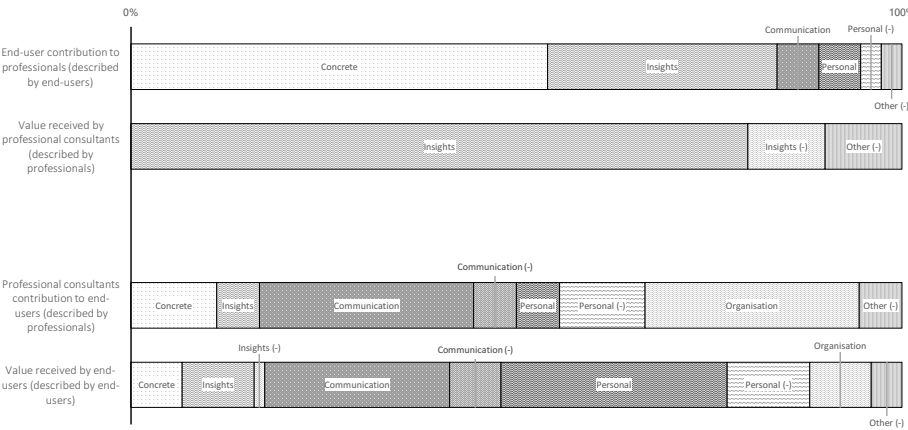


Figure 6: Percentage breakdown of types of value exchange identified as taking place from end-user to professional consultants and from professional consultants to end-users

thinking.

Figure 6 shows the relative weight of the categories of value exchange when value is being tracked firstly from end-users to professional consultants, and then from professional consultants to end-users.

Of particular note in this breakdown is the disparity between the types of value end-users reported contributing and those recognised as being received by professional consultants, and the large proportion of personal value that end-users report receiving from professional consultants that they did not report perceiving.

The lack of recognition of concrete contributions by users is reflected in the frustration expressed by a participant who wanted to have a meaningful impact on decisions but felt unable to make a contribution.

*I've seen on plans, quite specific designs for that space, and I'm like, well, what if we don't agree, the people that are actually going to use the space. Who actually gets to have a say? ... It wasn't very transparent what decisions had been made, and which decisions were still up for negotiation or could be impacted upon.*

Other end-users, however were more pragmatic, and were focussed on making a contribution rather than expressing an assumption that they would be involved in decision making.

*Our ideas might be misinformed, probably emotional, and maybe less than one percent of the whole process. But the very fact that you've actually felt like you've contributed, you've felt like you've been respected. ... I feel sorry for these guys because they've got to filter out all our bad ideas, and that's part of their job. But we feel respected, even if we don't contribute. ... we still feel like we're part of the story.*

This statement also highlights an important yet under-reported role that may have been played by the professional consultants in this process, transforming contributions that are not useful (particularly those categorised in Figure 6 as concrete), into personal value for the end-users by using the co-creation process to actively listen and convey respect to the end-users. Interestingly, this personal form of value this was recognised by one of the architects when describing a co-creation process that involved an extreme group of end-users (two men with muscular dystrophy).

*I think they probably got a sense of value that there's about ten people around the room, really intently listening to what they have to say. I think that's probably*

*important. That they're part of the group. I would say, it's kind of recognition as a person.*

However, this same value was not recognised in co-creation activities with other groups of end-users on this project.

When speaking in general terms, this architect described how for end-users involvement can be more important than decision making power.

*The whole role of co-creation is to create a process which eventually creates ownership over the space, as opposed to just giving them something. I think that through those sorts of consultation processes they feel like they were involved. Even if it's "oh they didn't listen to me" or something like that, at least they can say that they were involved.*

Similarly, the project management firm's representative described a general philosophical approach toward inclusivity, stating that end-users who participate in co-creation activities

*absolutely get that buy-in, so they feel involved in the process. So, it's not consultation, we were asking for their contribution, so they felt that any of their concerns were heard, and that they were addressed. Not necessarily given exactly what they wanted, but understanding the decision making process.*

But, as with the architect, this approach didn't necessarily translate into the practical application on this project, with this actor describing their frustration at how

*the majority of these people were clueless to the process. They did not understand the construction process or the design process. They were too concerned about "am I going to lose my office? I really need an office." ... I wouldn't have been surprised if people took stress leave after the interviews. They weren't in any way confrontational, but they start to get concerned.*

This disparity between abstract understanding of the role co-creation 'should' play, and the experience in practice points to Brause's point that it is critical to co-create the process with end-users so that they can achieve these kinds of value.<sup>11</sup>

Parts of the co-creation processes that didn't make clear the parameters in which the workshop was being conducted sparked a confrontational rather than collaborative tone.

*[They] were asking our opinion on decisions that had already been made. The architect literally wasn't really speaking the same language as us or really hearing what*

*we had to say.*

This notion of language was raised repeatedly as an issue across the interviews with both the professional consultants and the end-users. This was not limited to verbal language, with printed floorplans delivering a number of challenges.

It is important to engage with stakeholders in a language they can understand, and visualisation techniques are particularly important when soliciting feedback on something that is outside the users' typical experience.<sup>38</sup> Other research in this area has found soliciting feedback from three-dimensional models, to be more successful than relying on two-dimensional drawings.<sup>11, 22</sup>

The quote referencing the architect's language above was a reflection on a workshop in which two groups were given the same instructions, to work through some draft floor-plans for two levels of the building with the architects. In the group in which this reflection occurred, a printing error resulted the two floor plans being shown at differing scales. The group with consistently scaled plans had a generally positive response to the exercise and reported being highly-productive, while the group with inconsistent plans spent most of the allotted time discussing how the plans fitted together. While this cannot be attributed solely to the printing error, it demonstrates how concepts that can appear simple to an architect, such as reading a plan, can generate confusion and other negative forms of value for non-specialist participants. This was reiterated by a response from an end-user who was familiar with reading plans from previous work at a telecommunications company. He recalled how:

*on the plan would be a G.P.O. and the staff would be scratching their heads thinking G.P.O. means General Post Office, not General Power Outlet. The amount of times they had to be told again, that's actually a power point. And there were all sorts of things [I was] continually translating.*

More successful co-creation activities were facilitated through images (both abstract and literal), experiential descriptions and conversations, and tools that utilised elements of serious-play.

### Opportunities for further research

The initial results presented here support continuing research into the value exchanges that take

place through the application of a co-creation approach to the construction of the built environment.

The structure co-creation workshops attempted to challenge the ingrained power relationships that are assumed to exist in consultation processes by treating all participants as equal in the exercises. However, the analysis presented in this paper does not differentiate between the forms of consultation and instead focusses on the participants' overall impressions of the process. Based on the findings presented here, this has emerged as an important opportunity for further data analysis and research.

Most of the co-creation workshops, and all of the information sessions utilised technical architectural drawings (plans, sections, and elevations) as the primary medium through which discussion took place. While this is the standard form of communication for the construction industry, the results of this case study suggest that this form of communication brings significant translation challenges to the process. As with most large projects, a detailed three-dimensional model of the building was developed as a part of the architect's design process. This model was only used to generate two-dimensional plan, section and elevation drawings, and to generate static photo-realistic renders for marketing and communication purposes.

With continuing growth in the use of BIM globally, there is an opportunity to explore if the three-dimensional model can be used as a resource for facilitating co-creation processes. This suggests there may be an interesting cross-over with a body of literature that is exploring the value proposition of BIM, particularly for clients. To date, much of this literature has focussed on the benefits in the construction phase, and of the potential future benefit of BIM being used in facilities management applications.<sup>20</sup> Further research however, could explore the kinds of tools and virtual-reality environments that could support the use of early stage models in co-creation processes.

### Conclusion

This paper began by exploring the future role architects may take in facilitating the co-creation of new meanings (understandings), materials (physical forms), and skills (ways of acting). It explored current attitudes to consultation and end-user involvement in design processes, using Arnstein's ladder to show



illustrate the tremendous challenge of achieving a true partnership through collaborative practice.

The preliminary case study results presented here reiterate the value of end-users as experts in their own experiences, and of co-creation acting as a vehicle for consensus building. They also suggest however, that despite a conceptual or abstract level of understanding, professional actors can underestimate or fail to recognise the value that end-user participants receive in a co-creation process.

The results also suggest that if architects are going to be equipped to lead the kinds of environmental, social and economic change programs that will increasingly be demanded of projects in the built environment, their understanding of co-creation must go beyond traditional consultation practices. This would enable architects to understand how to meaningfully engage with end-users as partners rather than as subjects, and to view the user as a source of inspiration for the exploration of ideas, rather than simply a source of information about their past experiences.

If architects can develop a more nuanced understanding of the ways in which this value is created, and are able to express this during the planning of a co-creation approach, they may help better align the outcomes of co-creation approaches with the partnership level of Arnstein's Ladder. The application of this knowledge is two-fold: Firstly, a better understanding of the types of value received by end-users may help alleviate the professional consultants' fears by challenging the assumption that consultation means giving over control of decision making. Secondly by shifting the focus when planning co-creation activities from consensus building and manipulation toward creativity and partnerships, Architects and other professional consultants may be more easily able to structure processes that can meaningfully realise the value of contributions by end-users.

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# The Civic University. A model outside the institution.

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## ABSTRACT

This paper situates the project 'The Civic University' initiated by public works both as a critique to current university models in the UK and as a new model where knowledge is accumulated by and disseminated to civil society.

**KEYWORDS** Civic, knowledge, co-production, participation

This paper situates the project 'The Civic University' initiated by public works both as a critique to current university models in the UK and as a new model where knowledge is accumulated by and disseminated to civil society. It takes its point of departure from Jean-Claude Passeron's publication *Les Héritiers*<sup>1</sup> published in 1964 denouncing the institutions' role in the reproduction of unequal social structures, through content they teach, modes of access to education and methods of teaching. This inequality was reinforced by the coalition government's tuition fees and linear journey towards the job market. EJ Goddard published a report titled Reinventing the civic university in 2009<sup>2</sup>, purely talking about the role institutions can play in civic education. This did not respond to institutional challenges of Universities and the government mandates which would take the focus away from civic duty. 'The Civic University' acknowledges and understands existing modes of knowledge production and transfer at work in civic city making and combines it with external expertise to invent new curriculums, modes of learning and their accreditation. It challenges the relevance of

purely historical urban knowledge, who produces it and limitations of disciplinary restrictions. The Civic University manoeuvres across disciplines that may complement or be in conflict with one another, implementing new ways of knowing and acting.

Building on Ranciere's *The Ignorant School Master*<sup>3</sup>, the content of knowledge, its narrative and narrator and its form of delivery is rethought as well as the situation within which knowledge is delivered. As a networked university, 'The Civic University' draws together a series of situated 'civic classrooms' where concrete civic knowledge is produced. It is then shared and disseminated locally on various sites such as social housing estates, high streets, community gardens, parks and other urban sites currently under threat. The emerging curriculum is driven by the needs and desires of local citizens rather than some imposed disciplinary curriculum embedded in historical precedence.

The Civic University draws together a network of 'civic classrooms' – physical rooms situated within specific areas in a city, where projects are initiated. There are currently 4 makeshift 'Civic classrooms' already set up across London with the aim to grow to

other sites. The pedagogy moves away from individual student projects, the curriculum is implemented as a collective live project. Projects are set collaboratively between 'The Civic University' and local organisations/institutions to mutually provide support back to the local communities, the city and to the individuals enrolled.



Figure 1 - The public Land grab, Photo  
(Tom Dobson - public works)

### *Knowledge and Learning*

Knowledge is the key content of this project but rather than viewing knowledge as something that one owns, under the conventional University system of patents, copyright and intellectual property rights, we see Knowledge as open access and shared. As Ostrom and Hess recently defined Knowledge as a shared resource, an ecosystem shared by a group of people and "subject to social dilemmas"<sup>4</sup>.

In such a context we must go beyond the borders and boundaries of our fixed institutions and their disciplinary protectionism, and treat Knowledge as a "Common good" to be shared and used by those excluded by institutions. The competitive nature of universities and their statistical mandates from government means that they have become more involved in the business of selling courses or research

as products than being involved in the civic value of knowledge for social mobility and civic wellbeing of society. Levine supports this notion, defining the "common good" of public knowledge as building social capital, strengthening communities and developing the skills of effective citizenship<sup>5</sup>. He then goes further calling on Universities to share their vast resources as a matter of "fairness", highlighting the need of academics in supporting their local context.

As both practitioners and academics *public works*<sup>6</sup>, through being on the ground since 2003 facilitating community led urban development have seen the negative impact "specialised" knowledge and its protective institutions have in the prevention of making the new commons. As reflective practitioners working across disciplines of architecture, art, performance and activism we have seen that knowledge induces confidence, reducing social hierarchies between expert and non-expert. Situated and specialised knowledge can empower citizens to take ownership of their neighbourhoods and become interested in the city and the rights it should offer.

To briefly pick up on Jean-Claude Passeron's notion of unequal social structures created in conventional higher education, the Civic Universities pedagogy is centred around situated knowledge and learning. The whole remit of situated knowledge which is tied to the realm of experience needs to transcend disciplinary enclosures and definitions. Within a situation in the city disciplines play a supporting role unlike in the university where they play the lead role. As coach and learner in the Civic University you are a transdisciplinary thinker. "In a situated pedagogy learners participate in communities of practitioners and could later become part of them"<sup>7</sup>.

Unlike apprenticeship which has its focus on skills, being situated creates learning as an integral aspect of social practice involved in social and spatial relations produced in the city that can lead to action. "Learning is never simply a process of transfer or assimilation: learning, transformation, and change are always implicated in one another"<sup>7</sup>.

Situated learning is about the "comprehensive understanding, involving the whole person rather than 'receiving' a body of factual knowledge about the world; on activity in and with the world; and on the view that agent, activity, and the world mutually constitute each other"<sup>7</sup>.





Figure 2 - Old Tidemill Wildlife Garden, Photo (Maria Barnish)

In a context where more and more enclosures are introduced through privatisation and promotion of individualism understanding ways of belonging becomes part of the commons curriculum. “The form that the legitimacy of participation takes, defines characteristics of ways of belonging”<sup>7</sup>. This is in line to Vygotsky’s theories that communities of learners are “making meaning”. “Individual development cannot be understood without reference to the social and cultural context within which it is embedded”<sup>8</sup>. His thinking that the spaces within which you learn, shape you as a learned being, be it the home, the city, and the community. Up to now the transfer of situated knowledge has been described in opposition to ideas of knowledge as instruction. However from the implemented ‘classes’ at Tate Modern - part of a 3 month pilot programme<sup>9</sup>, this does not seem to ring true. The mode of knowledge transfer at these classes was not the focus, taking the forms of talks, lectures and workshops. However the collective moments which brought together separate ‘embedded’ communities into one shared space was essential in the distribution of situated knowledge.

Wenger and Lave talk of shared practice in a situation being constantly changing, where the relationship of newcomers and old timers are negotiated. Old timers need to instruct the newcomers of the lessons learnt, experiments that failed, challenges and opportunities as ways of furthering the practice. The newcomers need to understand the contexts of power, and ways to negotiate social relations. There are always moments where hierarchies are created and it’s the responsibility of community of learners to work towards addressing such hierarchies

in whatever way benefits the locality, creating “reflective practitioners”<sup>10</sup>.

In terms of free access to knowledge: The Civic University currently has shared knowledge openly and for free through workshops, zines, manuals, newspapers, video streams, either paid for through art commissions or through voluntary time. The formal students have come through European Erasmus programs and situated in projects where classrooms are already operating. This however needs much more rigorous investigation and creative strategies to ensure access is kept open. This current funding model is precarious and reliant on grants rather than fees, making long term sustainability difficult.



Figure 3 - The Bow Civic Classroom, Photo (Torange Khonsari - public works)

### *The Civic University Infrastructure*

In its simplest form The Civic University is made up of four core components;

- 1) The physical room: Civic Classrooms, which primarily have the purpose of a place where the co-produced and more intimate learning takes place.
- 2) Local partners to co-produce the curriculum: community organisations, schools, Local authorities, community initiatives.



3) Students that require formalised accreditation for social mobility. This will again be consulted locally to assess local needs.

4) Network of partnering shops, restaurants, workspaces, printers, community centres, maker spaces etc. to promote the idea of the networked university as support to the city and its businesses.

The Civic University hence creates a new 'network model' constituted to provide a shared relationship between learning environment, community and the city. An organisation built to support a network of spaces, individuals and initiatives across the city. Its goal to empower citizens, through knowledge to co-produce their built environment. This decentralised model is key to the creation of commons, reducing barriers of enclosure resulting in knowledge protection. This knowledge can be shared across the localities amongst all Civic University members. This networked approach allows for the direct transfer of knowledge between host community and new incoming learners, whilst creating space for both interdisciplinary and inter-locality knowledge exchange.

The 'civic classrooms' are physical spaces/rooms situated within areas of the city, where projects are initiated and the city is negotiated. There are currently 4 classrooms in London, although this can expand in number and location.

The 'Old Tidemill Wildlife Garden' in Deptford, is a community managed wildlife garden, which runs classes around ecology and wellbeing where curriculum has been developed by local residents. A central hub of citizen action in the neighbourhood, due to its precarious future as a housing development site. The learning has now expanded to housing, exploring how to build local identity and understanding housing rights, and has since led to the formation of new local groups and organisations.<sup>11</sup>

The 'The Bow Civic Classroom' on the Roman Road, has become a room housing Roman Road Bow neighbourhood forum as well as becoming an open space offered to communities to run sessions they choose.

Here Khonsari as a formal higher education teacher does not have the official role to teach city making but as a volunteer is part of the community of learners and teachers that are making the city and learning from each other. Here the situated knowledge is valuable and

whoever possesses that knowledge is the teacher.

The role of teacher/learner shifts here depending on the values of knowledge required to make a local change. The shifting teacher - learner positioning challenges conventions of hierarchical positions rife in universities. This cannot happen within a higher education institutional context. The classroom is thus not purely the room of the 'Civic Classroom' but the neighbourhood. Externalising knowledge in applied ways takes precedence over the conventional setting of higher education where knowledge is internalised leading to assumed solutions.

There are huge conflicts in values held by citizens in a neighbourhood. What knowledge is accepted and what is denied will need collective scrutiny as this project progresses. If citizens are what Bang calls "expert citizens"<sup>12</sup> with liberal, professional values, how will one ensure all voices are heard and their values discussed?

'R-Urban Poplar' is a re-use facility which offers classes and workshops for learning about environmental, social, ecological and closed loop practices towards sustainability, it consists of 4 spaces; Community Kitchen, Anaerobic Digester, Meeting space and Tool Lending Library. This classroom has had the most expansive co-produced knowledge dissemination in the form of free talks, Zines, market stalls, shops, performances, publications and walks. This classroom sets the blueprint for informal knowledge transfer attracting learners who would otherwise not engage in such topics.

Finally the 'LJ Works and the Loughborough Farm' classroom is located in a community growing project and future affordable workspace scheme for the Loughborough Junction area. This classroom has a focus towards civic education that enables vocational qualification towards social mobility of local residents who otherwise would not pursue further education.

Each of these 'Classrooms' has a local spatial network, and knowledge is constantly being produced and applied across a range of societal issues; from tackling gentrification, the integration of marginalised communities or providing more local training and employment opportunities. The pluralistic nature of these spaces creates new modes of interdisciplinary work which emerge naturally from local causes or issues. These settings also create environments for academic learners from 'outside' the neighbourhood

to come and learn and initiate projects in the aid of these local organisations objectives. Whilst academic learners can work within one Civic Classroom, the curriculum is offered in its entirety across the 4 sites. This platform of knowledge exchange was tested as part of a pilot project at the Tate Exchange, where members of associated organisations were invited to run and take part in a series of 'Masterclasses' run by local citizens as well as invited 'experts' to plug the knowledge gaps. These moments of inter-local learning are vital in the support of a group's aims in co-producing the built environment. Classes were organised based on shared issues between groups; on how to establish community land trusts, how to facilitate effective meetings and governance models and mapping local resources in the aid of the entire network. These moments of solidarity are essential in the development of the Civic University and its production of 'Knowledge Commons' creating a shared asset to be managed by all.

### *Inequality and methods of teaching*

In the introduction we mentioned Passeron highlighting inequality in methods of teaching. We elaborate on that in two ways, 1- Situated Pedagogy embedded in theories of learning by Wenger and 2- Methodology of co-producing the curriculum.

#### **1- Situated pedagogy**

The fundamental method within the context Lave and Wenger describe situated learning which CU adopts is participation. "Given a relational understanding of person, world and activity, participation at the core of our theory of learning, can be neither fully internalised as knowledge structures nor fully externalised as instrumental artefacts or overarching activity structures. Participation is always based on situated negotiation and renegotiation of meaning in the world." <sup>13</sup>

### *Institutional setting*

public work's situated pedagogy predates their Civic University initiative. It's worth briefly explaining this pedagogical approach which has been implemented within the formal higher education context of Royal College of Art in London (2014) and UMA school of Architecture in Sweden (2015-17). The pedagogy requires the students to take residence in a location

where the project site is located. They are to occupy a physical space where learning happens outside the curricular structures of the university and its conventions.



Figure 4 - The Civic University @ Tate Exchange, Photo (public works)

Students move away from pedagogies of individual learning to participants in communities of practice, where they become situated. This decentralises current theories of learning. The students become more knowledgeable about the context they are working in which also decentralises the master student relationship. Here students become masters of their context. Here 'mastery resides not in the master but in the organisation of the community of practice of which the master is part'<sup>14</sup>. This already creates a relationship where the master coaches with the students rather than students working for the approval of the master. This pedagogy then resulted to the creation of the 'Civic Classroom' in 2013 in Wembley with MA students. The construction of this situated environment very much in line with artist residencies initially created by APG (artist placement group)<sup>15</sup> allows the students to become and construct the community of learners together with local residents. It creates reflective practitioners who need to respond in an 'agile' way to problems, conflicts, commonalities and issues they come across using "participation as a way of learning which is active and embedded in practice". It is not about passive observation that promotes general assumptions towards abstract representation of the real situations in the built environment. "The generality of any form of knowledge always lies in the power to renegotiate the meaning of the past

and future in constructing the meaning of present circumstances”<sup>16</sup>.

Of course once students are operating within communities of learners, questions of ethics become pertinent. We ask students to develop ‘terms of engagement’ where the ethics of situations they were entering were examined at the start of the project, discussed in groups with tutors during the project and had to be written about at the end of the project in their dissertation. This assignment takes a simplified format of an ethics appraisal for PhD candidates working within the Arts and Sciences, and raises consciousness within the student body regarding their ethics within this engaged pedagogy.

Another component of the method were the ‘Civic Fragments’, a series of mobile installations aimed to disseminate knowledge, promote the programmes of a ‘Civic Classroom’, increase participation and instigate temporary events outside the static ‘Civic Classroom’. The ‘Civic Fragments’ also gave rise to the production of published matters in forms of posters, comics, newspapers, zines, even films that disseminated the locally sourced knowledge.

Finally we used ‘situated drawing’ as a term to describe the broad range of visualisation required of a ‘reflective practitioner’. They were constructed images within the context that described critical or activist moments within the project. The construction of the drawings themselves were the result of participation and thus co-produced, ensuring that local actors were complicit in the content of the drawing. Alternatively in the process of their creation it lead to new engagements and relations with outsiders. The materials of the situated drawings, in the best examples came from the context and determined the techniques of drawing.

### *Setting within communities of practice*

Once situated in communities of practice, the hierarchies of learner/master is reduced or even abolished. This context has been explained in detail in the section on situated learning so I move quickly to describe the settings where non-institutional learning happens. This happens when members of the learning community develop collaborative initiatives, prepare for official meetings, coffee mornings in local cafes where updates and strategies are discussed, meetings with local experts to discuss specialised solutions,

community forums where decisions are discussed and made and locally organised walks. To order any of the learning situations above goes against the grain of what situated learning and platform can offer. Here as Wenger describes learning is integral to everyday life as inherent to human nature and has the ability to negotiate new meanings, develop abilities to engage ‘communities of practice’, build personal histories in relation to histories of our communities, negotiate power relations over land or development, understand social boundaries and how to negotiate them and finally understand the effectiveness of our actions in the situations. Here learning is extremely subjective, non-quantifiable and open access. It’s an environment which is generous with sharing of knowledge and in terms of a practice that effects change is as effective as the higher education students who leave with a masters qualification.

## **2- Methodology of co-producing the curriculum**

At Civic University (CU) we would like to get away from the notion of the curriculum as a conventional set of instructions, critically assess the processes of delivery and methods for students’ evaluation. As the CU will meander between formal education contexts of schools and universities and informal social contexts of the built environment we are proposing that the curriculum is always co-produced with our different collaborators. The CU’s ultimate goal is to empower citizens through knowledge, to co-produce the city. Its curriculum needs to enable that to happen in every collaboration where curriculum is being developed. Currently the CU is developing curriculums with a secondary school (school 21) using neighbourhood planning as its focus. The CU is also developing a program with UN Habitat to skill share with mayors and officers in local government to understand benefits of co-producing the city. Discussions are being held also at local level with communities where ‘Civic classrooms’ are situated to understand what skills are required to co-produce the city and how to maintain the platforms and situations where informal learning happens. “The practice of the community creates the potential “curriculum” in the broadest sense”<sup>17</sup>. One aspect which is clear is that the curriculum will be developed organically, collaboratively and in line with Schon’s notions towards making reflective practitioners. The accumulation and culmination

of these curriculums will then be examined to see if a framework can be developed for others to create such curriculums. It's perhaps important at this point to point out that we refer to curriculum as a body of knowledge, as praxis and process rather than set of imposed instructions.

The CU is not only networked in the physical sense via the 'civic classrooms' but also through its partnerships with existing academic and award granting institutions. The academic study credits will be a myriad of existing qualifications for those students who want or need it granted via our educational partners, in a similar mode to the Erasmus programme. We are currently developing a roadmap of how this networked qualification structure works, but envisage the Civic University to be linked with a number of existing higher education platforms.

## Conclusion

The Civic University, situated between practice and academia, aims to shift power relations in urban decision making to the communities affected, through the production and transfer of situated knowledge. Situated in practice and experiential learning, it uses scholarly knowledge to critically assess practice whilst at the same time allowing practice to critique academic theories. Operating tactically across all its classrooms and their neighbourhoods has led to production and sharing of knowledge to achieve action. As partnerships and locations grow and to maintain the university as a common, our biggest challenge is how to maintain structures of knowledge sharing rather than neighbourhoods becoming isolated and self-involved. Each location has its own complex local realities to resolve and it would be the duty of the Civic University to ensure a program of sharing is built into its programmatic design. Currently public works is setting up a steering committee made up of academics, local citizens, artists, urbanists, politicians, journalists and education experts directing its development towards a university for the knowledge commons.

The Civic University needs to sit between formalised educational structures that offer state qualification and informal, experiential models of learning predicated by artists and scholars in the past decades. A networked entity which sits outside the boundaries of existing Universities is key to the success of civic learning towards long term self-managed urban

developments. In order to effectively empower citizens to take an active role in shaping their environments, our institutional forms need to be rethought. Through an understanding of how being situated creates 'reflective practitioners' we can begin to understand how knowledge becomes something 'common' and shared across demographics to have the power towards creation of self-governed neighbourhoods.

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# Architecture live projects. Advocating a co-design methodology across academy and community.

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## ABSTRACT

Architecture live projects have been undertaken at this institution since 2009. The completion of New Wortley Community Centre, a £759,497 building is the most complex.

Using the definition of co-design put forward by Sanders and Stappers<sup>1</sup> referring “to the creativity of designers and people not trained in design working together in the design development process”, stakeholders including students and tutors of architecture, graphic art and design, landscape architecture, product design and creative writing, community association, service users, contractors and design consultants, collaborated to design the building in an example of co-design. Co-design is discussed as a situated learning environment<sup>2</sup>; co-existing in both the academy and community differentiates it.

This paper describes and evaluates an emergent model of co-design adopted by the writers, considering the positive and negative outcomes, with the aim of evolving the methodology for forthcoming live projects involving students and external communities.

Extending the fora of co-design workshops used throughout the design of the building, the reflections, perceptions and personal learning outcomes of the participants are collected using face-to-face dialogue and critical discussion. Evaluation takes the form of summative qualitative analysis and involves the co-design group in forming conclusions for final consideration of the writers. The workshops are part of a larger study of social impact undertaken by the New Wortley’s Community Association’s Impact and Evaluation group, of which the writers are stakeholders; its findings further inform the paper.

The results suggest that:

a, co-design fosters situated learning environments where learning is deep and the experience is rewarding for all co-designers.

b, situated learning environments of formal learners from the academy (students) and informal learners from the community working together has a positive and reciprocal effect on their learning.

c, academy and community collaborations have a beneficial social, cultural and economic effect.

d, the co-design process to deliver the New Wortley Community Centre has established a framework highlighting elements which were highly successful alongside aspects which were problematic, thus providing a more informed template for the new live projects being undertaken to build upon.

This model of co-design, where the academy and the community work together on a design project has generated meaningful, diverse and rich learning experiences for all co-designers that also contributes to economic,

social and cultural regeneration in the community. This experience has identified key characteristics of academy and community co-design methodology that can be activated in a co-design framework for future co-design projects.

**KEYWORDS** co-design, live project, community, architecture, academy

### Introduction

The integration of live project learning into the architecture course at Leeds Beckett University (LBU) has led to a number of notable projects, the most significant of which is a new community centre building in Leeds' most deprived area<sup>3</sup>. This paper accounts for an eight-year journey to construction and the development of a co-design model, explaining in detail the method of practice involved through the underpinning theoretical approach.

### *New Wortley*

In 2009 New Wortley Community Association's (NWCA) aspirations had outgrown their existing centre, and were in urgent need of additional space to be constructed adjacent to the building. Having no funds for traditional architectural consultancy NWCA approached the Leeds School of Architecture (LSA) requiring a 'design' to allow fund-raising to begin. The brief called for an inspirational multi-purpose space with commercial functions that would enable the centre to expand its reach and sustain itself in the future. This was the beginning of the live project programme at LBU. An extra-curricular ideas competition was won by BA2 student Vahagn Mkrtchyan in January 2010, and the design was developed following a series of student led community consultation events effectively to RIBA Work Stage 2.

The LS12 postcode of inner-city suburb New Wortley is Leeds' most impoverished with 34% of people claiming out of work benefits. The needle exchange at the pharmacy next door to New Wortley Community Centre (NWCC) is the most heavily used in Leeds. Coupled with the highest suicide rate in the city, New Wortley has an average life expectancy of just 50 years of age.

### *Project Office*

Over the next three years staged funding applications were made using the student's drawings. Most of the £759,497 was raised through Big Lottery

grants. This meant there was a need for a continued consultancy role aiding the client team which led, in 2013, to LBU launching Project Office (PO), an in-house architectural consultancy forming a design and research collaboration of staff and students making ethical, social and resilient architecture by working with like-minded communities, organisations and individuals.

It is governed by 12 'Rules of Agency'<sup>4</sup> which demonstrate ethical principles and explores how to occupy a space concurrently within the academic institution and architectural practice. PO is co-directed by architecture lecturers, and paper authors, Simon Warren and Craig Stott.

The model developed uses the resource of architecture students design studio modules to provide architectural design for *real* clients. Student participants are remunerated for their time, either through credits toward their degree or financially if the work is not part of the course. The approach equips students with valuable learning experience relating to real world complexities through the vehicle of live projects, whilst simultaneously supporting the needs of socially cognisant organisations.

PO specialises in working for charities and community associations who cannot afford standard architectural consultancy. Consequently, offering untapped student resource to not-for-profit bodies is an ethical approach ensuring PO does not take commissions away from 'standard' practices within the locale. The model is currently maturing to develop joint commissions with local practices.

### *New Wortley Community Centre*

The new community centre, constructed on time and on budget, opened on 29th July 2016 and was the first externally funded building investment in the area for a generation. The new building supports an expansive range of activities, programmes and collaborations managed by NWCA including an ex-offenders programme, housing advice, employability

skills, creative arts groups, health and wellbeing activities, youth groups, breakfast club, job shops, café, laundrette, and much more. The building has attracted a host of new users, volunteers and opportunities, with the centre having grown from 2 paid staff to now having 15 supplemented by 52 volunteers. This step change has been crucial in enabling NWCA to offer the range of services the New Wortley residents requested from their community centre.



Figure 1. New Wortley Community Centre (Will Ton)

## Terminology

A number of terminologies are used throughout this paper, these are outlined below to contextualise the grounded theory upon which this practice-led research is built.

### Co-design and co-production

Sanders and Stappers<sup>1</sup> define co-design as “the creativity of designers and people not trained in design working together in the design development process”.

Co-production in this instance is used to describe the cooperative working of a group outside of design-based norms, but whose output is for the benefit of the participants.

### Community

‘Community’ is the word that NWCA and centre users use to describe themselves. Thus, in the context of New Wortley the writers’ terminology builds on Sutton & Kolaja’s<sup>5</sup> description as “a number of families residing in a relatively small area within which they have developed a more or less complete socio-cultural definition imbued with collective identification and by means of which they solve problems arising from the sharing of an area,” but goes much further to include a diverse collective of people, not all of whom live in the

defined catchment, but all participate and have interest in social cohesion, governance and regeneration of the area. Consequently, the notion of community in this instance has an extended affiliation to those engaged with the processes of making a more liveable area, and cites Wenger-Trayner’s<sup>6</sup> definition, as illustrated in Figure 2:

#### 1. Community of Place.

Everyone who resides within the geographic locale and subsequently is the intended beneficiary of NWCA services.

#### 2. Community of Interest.

An amalgam of individuals and groups interested in the increased and continued improvement of a previously overlooked locale.

#### 3. Community of Practice.

The overlap between the Community of Place and Community of Interest, working collaboratively to facilitate change, includes community activists, a number of political, professional and academic figures, such as LBU, who have embedded themselves over a number of years.

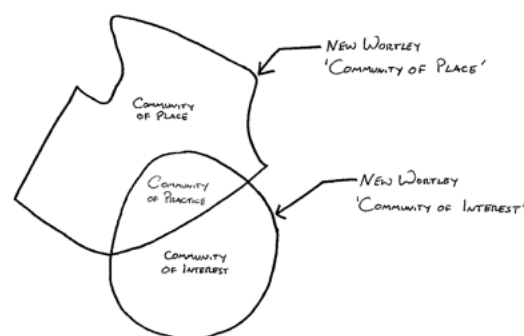


Figure 2: Relationship of Intersecting Communities (Craig Stott)

### Situated Learning Environment

The PO model creates *situated learning environments* as espoused by Lave & Wenger<sup>2</sup>. In contrast with most classroom learning activities that involve abstract knowledge which is out of context, Lave & Wenger argue that “learning is situated; that is, as it normally occurs, learning is embedded within activity, context and culture. It is also usually unintentional rather than deliberate, or a process of ‘legitimate peripheral participation’. Knowledge needs to be presented in authentic contexts — settings and situations that would normally involve that knowledge. Social interaction and collaboration are essential

components of situated learning — learners become involved in a ‘Community of Practice’ which embodies certain beliefs and behaviours to be acquired. As the beginner or novice moves from the periphery of a community to its centre, he or she becomes more active and engaged within the culture and eventually assumes the role of an expert.”

PO use the theory of situated learning environments to understand ‘learners’ as all participants in each co-design situation. In doing so the opportunity for learning, exchange and collaboration is extended.

### Co-Designing

The New Wortley Community Centre building is the culmination of wholehearted participation by local residents and volunteers with LBU students, academics and building professionals. The architectural method is a ‘work of many hands’, where discrete elements have been the design responsibility of specific student participants. PO choreographed the work into a singular architectural statement.

In total 196 people have directly participated in the design of the building. PO coordinated with other academics across design courses to generate an array of student work, as illustrated in Figure 3 including:

- Architecture students providing feasibility studies, conducting community consultation, component integration, and future phase design work.
- Landscape architecture students designing the public realm.
- Graphic design students designing wayfinding, signage, and a historical based art piece using work generated by the community led by a LBU cultural studies academic.
- Product design students designing built-in furniture.
- Technical design delivery through PO’s employment of architectural technology students. Recent architecture graduates were employed to contribute to the technical building design and administration of the construction contract.

Live project learning is a key component in the student experience at LBU, where exposure to working professionally in multi-disciplinary environments begins to equip students with the necessary skillset for professional careers. The academy setting allows for critical reflection of this. Simultaneously, vital production for third sector organisations is provided.

The *community of place*, empowered by the process, brought many skills (local knowledge, making and constructing, consultation, grant funding, management and coordination, briefing, financial acumen, collaborative practice, friendship and support) to the project. Further, the building contractor not only brought their significant experience and high-quality craftsmanship to bear, they embodied the project’s social endeavour by enabling student visits and encouraging collaborative design workshops.

A key NWCA stakeholder believes “The close involvement between the project team and students with the residents through regular meetings and consultations resulted in a building that genuinely reflects the community needs and provides the space we badly needed.”

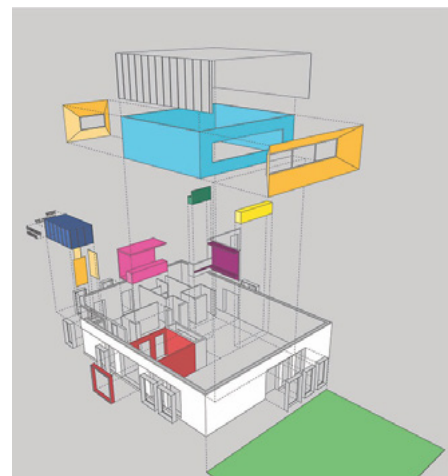


Figure 3: Co-design axonometric illustrating student designed elements during the construction phase (Project Office)

### Architecture

Architecture students were involved at numerous points throughout the six-year design process. Two members of NWCA, a professional project manager and two architecture tutors oversaw the initial design work. As this was the first undertaking of a live project at LBU no strategy existed for its implementation, as such the learning environment was improvised as a traditional ideas competition, effectively mimicking practice protocols. Despite this, the outcomes were exceptionally strong given the quality of the winning scheme by eventual winner Vahagn Mkrtchyan, who elucidated “The design went through numerous iterations. As we engaged more with Maureen, Bill

and the wider community, our aspirations for the centre and the desire to regenerate the area quickly pushed and evolved the design from what was initially a small outbuilding to a more generous, inspiring and a truly sustainable community space, securing support from the Council. The process was a great learning opportunity working with clients, stakeholders and dealing with design, technical and financial constraints. Although it took almost 7 years to complete the project from its inception – it is a great testament to community engagement and perseverance in the face of so many challenges. Overall the project was a very rewarding experience that I would recommend to all architecture and design students.”

Brief development was conducted through architecture students facilitating community consultation events. These took many guises, from questionnaires and information stands, to participatory events and attendance of community meetings.

Consequently, the student learning experience for this stage relates to methods that focused on data collection which enabled informed design decisions further on in the process. As an aspect not usually covered in architectural design studio modules, community engagement provided the opportunity for architecture students to widen their skillset. Student contributor Adam Fulton reflected, “I’d had little experience of presenting an architectural project to members of the public before the consultation event. This opportunity gave me hands on experience of how to tailor my oral presentation to suit those with an untrained eye, making sure the delivery of the information was clear and pertinent. On a number of occasions this included a description of the significant drawing types such as plans, sections, elevations.”

Whilst the construction of the community centre was underway, phase 2 of the project, to convert the existing community centre into a Health & Wellbeing Centre commenced as a design studio project. A grant covered the installation of central heating, renovation of toilet facilities, and a new entrance to designate the change of use. A BA2 design studio project sought ideas for the new entrance. However, to achieve a brief that fulfilled the learning outcomes of the module the writers’ augmented it to include new uses to be speculated by the students. The design studio worked from the existing building on a number of occasions,

immersing students in the true context of their design work and enabling continual dialogue with staff, volunteers and centre users throughout the process. Working in teams further challenged perceived studio culture norms, encouraging genuine discussion with the community of place, resulting in a rich experience for all participants as surmised by Kimberly Frangos, NWCA board member, “With the building we are trying to raise people’s aspirations, both personally and for the area and their community. We would like New Wortley to be a place people can be proud to live in. For many visitors, engaging with the students is something totally new, yet to see they care about their area makes a massive difference in helping us achieve our purpose.”

### *Landscape Architecture*

The new building budget included for modest landscape proposals, notionally suggested within the planning application. The area of New Wortley lacks urban quality or an identifiable visual image; it is a harsh physical environment. Therefore landscape architecture students were invited to participate in exploring the design of a wider urban realm as part of their Design and Community module.

One of the principal functions of the experience is to provide opportunities for third year undergraduate students studying landscape architecture to experience the theory and practice of landscape design in association with ‘live’ client groups to develop social awareness and professionalism. A common problem of co-design within LBU is that the client’s project and student learning outcomes do not immediately match. The skill of the live project educator is to develop briefs where learning outcomes are met and the client receives the work it has effectively commissioned. In this instance the landscape brief for the immediate area around the building was not of sufficient scale and complexity for the learning outcomes of the academic module, therefore the scope of the brief was enhanced to include a larger area beyond the centre. In this instance, it emerged that this was also to the benefit of the community of place, as the design work became a dialogue about their future needs.

### *Graphic Design*

Whilst engaged in New Wortley, PO picked up on interesting stories of its history from centre users. In



discussion with them it was agreed that a co-design artwork should be created for the new building's double height café space. This presented an opportunity to bring in another Leeds Beckett expertise in the form of creative writing.

LBU and NWCA encouraged the community of place to reflect on their life in New Wortley. The output became part of Dr. Katy Shaw's Y21 Yorkshire Socio-Cultural Regeneration project.



Figure 4: Co-designing creative workshop (Graham Davey)

Starting with a series of workshops advertised as 'Bringing the community together to create a mural celebrating and sharing stories of the history and life in our area' these one day workshops encouraged participants to share their knowledge of local history, including anecdotal events that have become part of the area's story. The workshop aim was to generate a range of new narratives that tell the history of New Wortley. The workshop was run by professional writers, producers and academics leading sessions on community history, creative writing and performing the past.

The outputs enabling an artwork to be produced were hand written stories encapsulated through specific writing activities. These were collated and passed on to the graphic design team to convert into the art piece. It was requested by the cultural studies academic that the authenticity of the original writing should be retained and not modified, so this became an exercise in filtering key comments, not creating a new narrative from them. Initially a BA3 graphic design student took on the task of transforming sixty five A4 sheets into a coherent work as part of his undergraduate studies. This proved too much for the student in the time frame, consequently the work was undertaken by his tutor. The design was converted

to working drawings by PO and routed into plywood panels at the university's workshop, before being installed on site by the main contractor.

The artwork exemplifies the co-design method of many hands being directly involved in its production, from the generation of the idea, through its design and implementation. Although the final piece is successful, the complex process of its production meant that working with fleet of foot attitude was necessary, as illustrated by how the team pulled together when the designated student failed to produce the graphic design in a timely way. This is a normal incident in live project pedagogy and worthy of further study.

### *Product Design*

BA2 product design students were set the challenge of developing three complimentary elements for the interior of NWCC; reception desk, built-in seating and computer hub. Each piece was required to be a work of 'functional art'. Students were given a construction budget and required to design all three pieces as a cohesive set, with one piece developed in more detail with technical drawings for manufacture/construction. To help, a specialist local joinery firm, Chippendale Projects Ltd (CPL), was appointed from the beginning, taking part in the three co-design sessions between students and client, plus two working tutorial sessions and final review, spaced out over a ten week semester period. PO also participated, meaning the community of practice created included NWCA, residents, manufacturer, product design students, product design tutors, and architecture tutors. This dynamism ensured the three day-long co-design sessions were highly productive. The first sought a spatial understanding, with all attendees involved creating a 1:20 scale model of each designated area, followed by a tactile materials exploration from the hundreds of samples provided by CPL, enabling students to develop concepts for discussion at session two, two weeks hence.

Product design tutor Jennifer Chalkley reflected on the power of the initial session, "None of the clients or residents had built scale models before, and the majority struggled to visualise how the internal layout would feel three-dimensionally, thus the exercise provided everyone, not just the students, an important learning outcome which enabled a far more engaged collaborative discussion for the community representatives no longer felt isolated by their lack of

design training.”

In session two, students ‘built’ a collage drawing in front of everyone to express their concept. Again, this visual descriptor encouraged participation, and the remainder saw each collage continually reimagined until each design truly represented the client needs via the student narrative. The first detail tutorial with CPL occurred a week later, providing students the construction knowledge to develop their now resolved concepts in an accurate and justified manner.

The third co-design session before final review took place in the half-constructed community centre building, with scale models and drawings for each piece placed in location. An excellent community of place turn out reviewed the work, leaving written feedback on all pieces following student presentations and discussion. The relatively short time period over which the project took place allowed consistent attendance from community of place members, meaning they witnessed the progression and development of the schemes from inception through to detail. Many were intrigued by the iterative design stages, with one remarking, “I thought you just drew something and that’s it! It’s amazing to me to see how they’ve changed and how much better they are now than at the start.” Thus the co-design sessions truly did embody a situated learning environment where everyone involved gained tacit knowledge.

Following a second detailed design session focusing on affordability, students presented a range of interesting and well considered final designs to the community of practice, who subsequently voted on their preferred scheme. After much deliberation Megan Fitzmaurice was chosen the eventual winner with her notion of the furniture creating ‘rooms’ within the space to delineate usage and inhabitation. Following the result Megan said, “We worked very closely with the staff and members of the community centre to find out the requirements they wanted from the hub areas. I engaged with the users of the centre to find out the pros and cons of the existing hub to ensure my design was suited to the users in a way that will benefit everybody, also creating an environment to bring comfort and relaxation as the centre is an important place for so many people within the surrounding community.”

With the help of CPL Megan finalised her design and PO oversaw the detailed construction drawings.

Another student, Tobias Bridger had designed a construction method that was better suited to fabrication and this was integrated, so a practical hybrid evolved. Commenting on the end result Megan continued, “Once the design had been manufactured and installed, seeing it coming together was an incredible experience knowing I had been a part of something that was going to be applicable in so many ways to benefit people’s lives. I thoroughly enjoyed every minute of this project, it has greatly influenced my attitude towards the designer I want to become which is focusing in people centred design.”



Figure 5: Co-designing (Simon Warren)

### *New Building Consultancy*

NWCA appointed PO as architect and contract administrator using funds from the Big Lottery grant. This income enabled PO to employ students in an alternate co-design situation, as whilst still a valuable learning experience, the pedagogic underpinnings of project delivery did not align with module outcomes in the academic setting in this instance. Thus a new condition is created where interaction with the community of practice takes place as *professionals* rather than students.

In this scenario, the learning experience for the student is clear. The expectation and requirement for high quality output is much greater as a paid professional, thus facilitating this opportunity within the School of Architecture is significant and captured by RIBA Stage 1 experience student Graham Davey, “Working with PO as both a student and graduate has been very rewarding. The difference between the two roles has been fundamental with increased responsibilities and the change from participant to facilitator, however both have been great experiences

allowing me to truly make a difference to those less fortunate in my immediate area.”

### Learning Outcomes

The writers have learned much about co-design methods from the New Wortley project and others in their live project portfolio. Reflecting specifically on NWCC there are lessons to be carried forward to future live projects:

1. This is fun. Flippant as it might sound; being open and inviting everyone to participate towards a common goal is very rewarding. The communities of practice and of interest become a gang to identify with. It is a social experience.

2. A situated learning environment is an overarching understanding of the capacity for every situation to be for learning.

3. *Fleet of foot* – constantly look out for opportunities for co-design situated learning; see them, invent them and do so quickly so that the moment does not elude you.

4. Co-design techniques can be structured and unstructured. It is enough sometimes to put everyone in the room and see what happens. More structured co-design sessions such as the oral artwork example are successful but need significant planning time. The recommendation is to plan in advance but accept that projects have the capability to veer off at any moment. If they do, go with it.

5. A capital construction project has a specific programme and there are significant penalties for not meeting deadlines that can be attributed to the participants, this is at odds with the deliberateness of organising co-design processes. At NWCC the moment was missed on numerous occasions to meet construction deadlines resulting in design work that was completed quickly for approval by, rather than with co-designing stakeholders.

6. The role of the live project educator is complex in a co-design situation as both collaborator and academic assessor functions are played out. This is paradoxical. PO attempted to manage this by being aware of its primary role in each learning environment. This warrants further study, the writers are captivated in the *paradoxical* condition of the live project.

### Conclusion

Live projects are particular situated learning environments at LBU that are facilitated by PO's design and research collaboration of staff and students. In focusing upon delivery of the NWCC building, this paper advocates co-design as a method to situate learning environments which successfully straddle the both practice and academia.

Based upon the driving desires of a Community of Place, LBU has become embedded in a Community of Interest looking to support those ambitions, which led to a Community of Practice primarily constituted by students, centre users, and local residents.

The reciprocal relationship between students, academics, and the Community of Place has resulted in beneficial social, cultural and economic effects. These are wide ranging and the evaluation ongoing, but some key relationships that can demonstrate this influence can be highlighted.

The Social Mobility Group of Universities UK<sup>7</sup> (SMGoUUK) makes comment about the role of many Universities as ‘anchor institutions within their local community, working with local and regional partners to promote economic, social and cultural regeneration.’ Although LBU has not directly expressed itself as this (yet), it is clear that there are many initiatives across the university that can be defined in this way. Live projects, across academy and community by definition fulfil this aspiration.

The collaboration at New Wortley is important for at least the following reasons:

1. Mostly, normative student design work is an end in itself in pursuit of learning. The live project not only achieves this but also produces a piece of work for the external collaborator. Students through their productive endeavour achieve meaningful contributions to society. Extrapolated, students are the one resource that universities have in abundance and if this student workforce is mobilised as a collective *force for good*, the positive effect on society is hugely positive. At New Wortley, the significant output is a new community centre. The construction of the building has contributed to the economy, but more significantly in just its first year the activities it houses have contributed considerably to the local economy through job creation, the ex-offenders project, room hire, café, education etc. The ongoing evaluation has already proven that millions of pounds have been saved

in government expenditure.

2. The physical university is defined as the campus and most learning exchanges happen within it to the exclusion of the wider community. By embedding learning outside the institution's walls a transformative situation is in train. SMGoUUK espouses social mobility as an objective but closer to the writers' aspirations is how live projects and other programmes can be seen as a means to reduce inequality. LBU has been visible in New Wortley for the last eight years, the Community of Place has become familiar with it and its personnel, and accepted it as part of the Community of Interest; it is not perceived as a world apart. Anecdotal conversations for example around education to encourage first time applicants to higher education, or at least the possibilities of formal education have occurred.

3. Universities can bring specialisms and expertise that enrich the skills on the ground to produce work that is richer, wide reaching and more fit for purpose. The community centre design is an example where the 'quality' is better because of the co-design process which took place.

4. The positive social and cultural effects of collaboration are in part because the co-design methodology dilutes hierarchical positioning. Feedback from students and community points dramatically to the progressive knowledge transfer between participants involved in live projects. For the students, this entrenches the ethical and social responsibility of designers in the built environment. Whilst delivery of a new community centre is a significant milestone, in reality the journey continues, as the aspirations of New Wortley continue to increase, LBU's role as a Community of Interest stakeholder will endure, enabling more students to participate in the co-design further enhancing the area whilst simultaneously facilitating the writers continued development of this strategic approach to live project education.

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# Medical architecture on the social valorisation of psychiatric patients. Employing transdisciplinary approaches between architecture, physical and mental well-being disciplines.

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## ABSTRACT

Medical architecture -- therapeutic architecture or architecture for salutogenesis as it is also known-- is an interdisciplinary field related to the evidence based, planning and design of healthcare facilities. It has been one of the first fields that addressed evidence based design and over the years becomes more and more inclusive, involving medical professionals, designers, planners, managers, carers as well as patient representatives actively in the decision making and design processes.

In this paper, we report on work carried out within the project 'The social invisibility of mental health facilities: Raising awareness on social exclusion in urban environments through artwork', involving three schools at UCL, i.e., Architecture, Psychiatry and Fine Art, and describe our approach in using transdisciplinary research methods.

Inequality has been reported in medical and healthcare management literature but not connected to building stock. However, the façades of mental health facilities buildings are directly visible from the community and contribute to the opinion of the public, staff and patients and convey messages on how society approaches the illness. It is also what service-users see just before crossing facility thresholds. The aim of this project is to juxtapose the exteriors of mental-health/health buildings and their urban integration, documenting this inequality from the socio-spatial perspective.

We evaluate proximity of buildings to transport and analyse architectural materiality/façade using multimedia techniques to identify differences in service provision and contrast facilities of an inner-city catchment area in terms of access, condition and status compared to their surroundings. We present an attempt to develop new ways of approaching these facilities that extend beyond conventionally applied methods within traditional architectural education by adopting knowledge from the fields of psychiatry, psychology and medical architecture, on the pathology of mental illness, the stigma associated with it and the ways of social valorisation of people with mental illness and at the same time employ visual methods to support the interpretation and interrogation. That way, the



team juxtaposed the evidence base with the intuitive and the self-referenced. At the same time disciplines that have dealt with the subject from a specialized perspective could see new perspectives and capture new dimensions of an otherwise familiar subject.

In this paper, we discuss potentials and challenges that arise when different disciplines work together. Concretely, we outline the different roles of architectural students and art student, the psychiatrist, the psychologist and the medical architect collaborating to investigate inequality generated through social perception of health care facilities. We identify pedagogic issues that influence how students conceptualise and internalise the various methods and highlighted factors such as understanding curiosity and the role of discovery as crucial aspects in learning.

**KEYWORDS** transdisciplinary, medical architecture, participation, healthcare facilities

## BACKGROUND

Medical architecture has been a multidisciplinary sector focused on the design of healthcare facilities. Initially, it was a discipline concentrating on the factional aspects of healthcare facilities such as infection control, distribution of pipes and mechanical systems, ergonomics, etc. However, developments in patient focused care as expressed by the Plane Tree hospitals – hospitals of the Planetree Organization, a pioneer organization for implementing and advocating patient-focused and healing environments – and developments in the field of environmental psychology influenced healthcare buildings towards a more therapeutic design direction. This was pollinated by the theory of salutogenesis<sup>1 2</sup>. Salutogenesis explores the ways that psychosocial interventions can increase the sense of coherence and through that path increase people's wellbeing and sense of wellbeing. Dilani<sup>3</sup> transferred the theory of salutogenesis to design for health. Parallel, Chrysikou brought together the two sectors - medical architecture and architecture for salutogenesis- to cater for the needs of mental ill people in environments that could promote the therapeutic regime and patients' sense of wellbeing at the same time. In the introduction of 'Architecture for psychiatric environments and therapeutic spaces'<sup>4</sup> she described therapeutic architecture as the people-centred, evidence-based discipline of the Built Environment that aims to identify and support ways of incorporating into design those spatial elements that interact with people's physiology and psychology. It is a significant field of architecture that becomes even more important when people experience ill health, as it is in this state that they present the least abilities to cope.

## MENTAL ILLNESS AND STIGMA

The social exclusion of the mentally ill people is a subject that has concerned psychiatry even before 1797, when Pinel and his team removed the chains of the psychiatric inmates<sup>5</sup>. Mental health has been associated with stigma even from ancient times, with psychiatric issues being dealt with as pagan and mystic concepts targeting Evil, even in cases where the mental patient was treated as a sacred person<sup>6 7</sup> or being related with witchcraft and heresy in the 15th century or even after 1650 when in Britain, the Vagrancy Act of 1714 enabled the incarceration of thousands of people in mad-houses, associating lunacy with criminal behaviour<sup>8</sup>.

The 18th century was the starting point for psychiatry, as a new discipline of medicine. It supported the idea of a therapeutic relationship with the patient and the belief in the possibility of cure, using scientific tools of observation and experimentation<sup>9 10</sup>. At the end of the 19th century the concept of the asylum was questioned again<sup>11</sup>. The 1950s proved to be a period with important developments regarding legislation both in the UK and France towards de-institutionalisation<sup>12</sup>. In 1960, from the UK and France, doctors A. Baker and P. Sivadon and architect RL. Davies collaborated on the World Health Organisation (WHO) publication "Psychiatric services and architecture" and proposed a system of psychiatric care, with the psychiatric hospital occupying a central role within an extensive network of community facilities that no longer resembled a prison but was as close to a domestic setting as possible<sup>13</sup>. Nevertheless, the local community was often opposed to them using the slogan "Not In My Backyard" (NIMBY). But, even

after the closure of the asylums and the replacement of the big psychiatric institutions by smaller ones in the community, mentally ill people still remain among the most excluded population groups, with research indicating that recently created facilities in the community became new, smaller scale institutions. In Europe, almost 20% of the burden of disease relates to mental illness that affects 1 in 4 people and has 9 out of 10 countries with the highest suicide rates<sup>14</sup>. As mental illness has low diagnostic and low medical treatment accuracy factor<sup>15</sup>, environment is central for the quality of care and treatment of mentally ill people and crucial for social re-integration.

Society responds to those mental health problems by giving a lower priority to the treatment of mental illness in comparison with physical illness. Inequality in provision is often reflected in where treatment is provided and in what sort of building treatment is given<sup>16</sup>. As a general trend, the building stock of any mental health service presents no exception, with planners and architects having very limited knowledge on how to approach the design of these facilities. This gap of knowledge on how psychiatric space operates became more obvious when research combining methodologies deriving from medical sociology and architecture, under the principles of salutogenics and their implementation to healthcare facilities found that even awarded psychiatric facilities might present strong institutional characteristics in terms of building features and in terms of users' perspective<sup>17</sup>. Additionally, as normalization theory references suggest<sup>18</sup>, a building that is not integrated in its surroundings, increases the fact of social exclusion and the incidents of vandalism from the community. Moreover, mental health facilities face severe budget limitations, which are not necessarily the case for the rest of the healthcare services that might even be commissioned to star architects, such as the Maggie's Centres<sup>19</sup>.

Common factor in all these contexts analysed above is that mental healthcare still remains the Cinderella of any health service, i.e., the under-resourced and often neglected part of the system, with stigma being the main cause for these inequalities. These inequalities reinforce and perpetuate shame and stigma and add further barriers that hinder successful treatment. So, we suggest that a visual comparison of the facilities for the mentally ill people in the community to the

facilities for healthcare in general could illustrate what professionals involved in the treatment and the care of mentally ill people already know: the phenomena of NIMBYism (NotInMyBackYard syndrome, a characterization of opposition by residents to a proposal for a new development because it is close to them) and the social exclusion of mentally ill people in our society is still a reality.

Inequality has been reported in medical and healthcare management literature but not connected to building stock. The aim of this project is to explore whether inequality could be detected by the exterior of the facilities, what service users see just moments before entering the facility's threshold. The main research objectives of this study are to: i) identify the urban integration of the mental health facilities and ii) evaluate the exterior in terms of materiality, condition and façade architecture.

## METHODOLOGY

To achieve that goal, we primarily selected a research area, the catchment area of Camden & Islington NHS Foundation trust, the mental health trust surrounding University College London (UK). A catchment area is the geographical area that is under the same referral path for medical provision and treatment, which means that all people living in that area would be referred and treated in the services of the catchment area. The project juxtaposes the view from the street and the distance from underground stations of the health vs mental health facilities of the same area, raising awareness of inequality and social exclusion.

For the first objective, a visual map was produced with all the NHS facilities (both healthcare and mental health) of the selected catchment area (Figure 1). The study reference has been an NHS online platform, which maps elaborately all services, including offices and different specializations as separate ones although belonging to the same complex. Apart from the facilities, the underground stations of the area were also highlighted, so as to check the vicinity of the facilities to public transportation and identify any potential differences in terms of access. Only underground stations were chosen for the creation of the map, as areas close to underground stations have a premium when it comes to property values<sup>20</sup>. Additionally, we did not look at the bus coverage as it

has a denser distribution and we took the bus network as given, while considering the underground network as a premium on top of that.

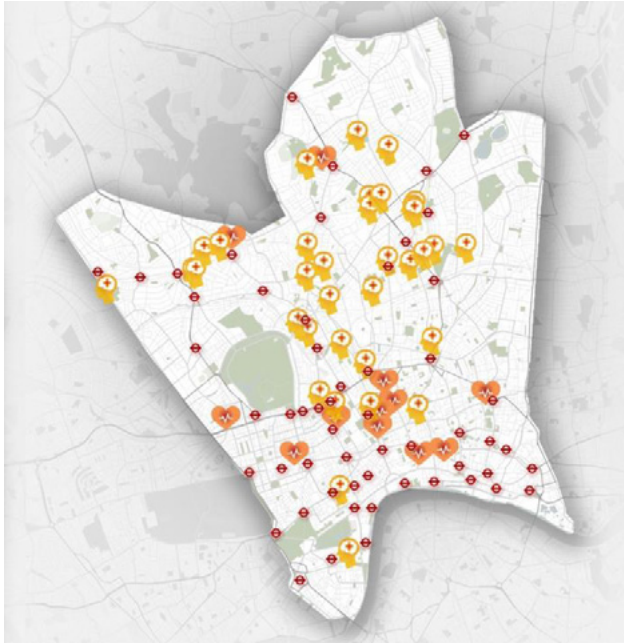


Figure 1: Map of the healthcare and mental health facilities of the Camden and Islington NHS Foundation Trust catchment area. The psychiatrist of the team identified the importance of location as a potential indicator of inequality. (Credit: Anastasia Katikaridi)

The heart on the map symbolizes the healthcare facilities and the brain the mental health ones. The cross in the brain symbol and at the centre of the heart indicates the exact location of the facility on the map.



Figure 2: Photographs of the exteriors of mental and healthcare facilities of the selected catchment area (Copy right: The social Invisibility of Mental Health Facilities)

For the second objective, we photographed the exterior facades and entrances of healthcare and mental health facilities of the catchment area (Figure 2). Only NHS facilities were included in the study. In cases where there is more than one building in the facility's site, these cases were treated as a whole, since we were interested in what is visible from the street level and not each single façade within the campus.

Another inclusion criteria was that only mental health sites providing accommodation were selected, so as to avoid those serving as offices only. The same photographic camera, weather conditions and light levels were used for all photographs. Primary care facilities, such as GP centres, were excluded. There was one example of primary care facility that was selected but only due to its integration with mental health provision and as such was studied.

Based on the above criteria and out of 73 different services, we studied 20 case studies, 11 healthcare and 9 mental health facilities of that area, visited and documented through photography the public perception of these selected facilities: their exteriors, entrances and façades. We compared the photographs of the 20 selected facilities to evaluate the materiality and façade analysis of the buildings and identify any differences in terms of condition and status compared to their surroundings. Since this is a multi-disciplinary project we tried to approach these facilities by adopting knowledge from all the fields involved in the project: that of architecture, psychiatry, psychology and medical architecture, on the pathology of mental illness and the stigma associated with it. As a result, the study pursued a visual interrogation of the architectural and urban elements that reveal or conceal those buildings' identities as usage.

The map and representations derived from the architectural skills of the team as they were considered less abstract to convey the message. The artists contributed mostly at the earlier stages of the analysis, such as the multi-media approach and they also provided insights through their interpretation of the buildings, such as comments and interpretations of the colour schemes and the atmospheres. Additionally, discussions with the psychiatrists in the team suggested looking into accessibility as proximity to the closest tube stations, to see how the mental health facilities would relate to London's underground system.

In this respect, visibility and accessibility parameters were constructed through these discussions in a common language that would help us explore the possibility of stigmatization of mental versus healthcare buildings.

## FINDINGS

Through mapping the facilities we, in that instance an architectural Masters student and a post graduate research assistant in collaboration with the medical architect, identified differences in terms of access. Searching for the optimum accepted time a person should walk from a transport service point to local facilities, in particular for this study from the closest underground station to healthcare and mental health facilities, we considered the suggestion of a 12 minute walk<sup>21</sup> as a threshold distance people should be willing to walk to service points from a tube station in a study on connectivity. From medical sciences and sustainability perspective, facilities' distributions in an area are calculated as per population numbers, favouring density as an indicator. In a study on average distance on emergency hospital admissions, for instance, Camden had the shortest average distance at 2,5 km, equal to 1,6 miles. For this study, the typical distance count was taken from home to hospital, particularly to emergency hospital care, and showed that hospitals tend to be located in densely populated areas<sup>22</sup>. Medical research on mental health facilities in Spain recommends considering territorial accessibility as the distance from a person's place of residence to a mental health facility<sup>23</sup>. The distance is given in minutes (temporal) taking three different scenarios; less than 30 minutes, between 30 and 60 minutes and over 60 minutes.

For the purposes of this study, we focused on temporal accessibility and the experience of the everyday person passing by these facilities in a daily commute. Through the production of the visual map, the research conveyed differences to access to transportation with the healthcare facilities being much closer to London underground stations in comparison to the mental health ones, bringing another obstacle to their access and their community integration. Based on the 12 minute threshold, all of our selected facilities fall within the optimum walking time, with hospitals having significantly more proximity to tube stations with a mean of 4, 818 minute walk, whilst the 9 selected mental health facilities have a mean 8, 66 minute temporal distance. The mean walking distance for all 71 mental health facilities is 7, 591 minutes (excluding 2 facilities: Kingston Improving Access to Psychological Therapies (IAPT) and SMS Kingston Wellbeing Service).

This difference in the mean distance makes every day travelling to mental health facilities more difficult as it adds to the exhaustion of their already burnt-out staff. Yet, centrally located mental health facilities might be perceived as too institutional or too expensive for healthcare but just perfect for luxury accommodation. Thus, patients and staff must travel even further from their networks, families and places.

Moving beyond the selected buildings and method of temporal accessibility, we started to experience barriers in terms of proximity. What adds to this is the complexity of the urban fabric, where railways cross wide areas making it inappropriate to transcend on foot areas with physical discontinuity that otherwise seem in proximity on the map. It is also possible at the level of signage and wayfinding that stigmatization or lack of provision might need to be addressed.

Through the photograph comparison and the mapping of the facilities, we identified (one architectural and one art student in collaboration with the medical architect) important points of differences between health vs mental-health networks in terms of:

- demonstration of purpose vs hidden use,
- sheltered and highlighted entrance vs unsheltered entrance or hidden at the back of the building,
- labelling vs invisible entrance,
- visual transparency: glazing introduced in playful ways even combined with art vs fear of transparency: glazed areas viewed as a problem rather than a solution that brings light in
- extensive use of glazing to bring light in vs opacity and extensive use of brick walls
- variety of colours and textures including the NHS uniform green vs predominantly dark façade colours
- use of artwork or custom-made ornamental artefacts vs lack of artwork and ornaments attached
- proximity to landmarks and location in high value land vs remoteness from landmarks & location in more deprived areas and

There were also differences regarding:

- complexity of volumes vs plain facades lacking canopies or balconies,
- grid on the facades with a repetition on windows vs incoherence to grid and home-likeness, with restrictions to openings
- maintenance vs demonstrations of vandalism, with its' general impact on the community feeling unsafe



and discouraged from utilization of these facilities,

- Stand-alone healthcare use vs hybrids or mixed use, with some facilities included in residential or primary care complexes

Another important finding is the significant differentiation in scale between health and mental health facilities. Hospital buildings and complexes designed for purpose in mind and they do carry significant architecturally visual elements that establish the volume and signage that help people associate the usage. On the other hand, most mental health facilities do perform in smaller scale, having less units and refraining to share any manifestation with the public of what they are. They tend to be more 'hidden', in some cases even within other hospitals or health provision facilities, without any special signage. In other cases access is not direct from the street level. Their building stock is in most cases in worst condition than that of the healthcare facilities, lacking façade ornaments and artwork. They tend also to be located within primarily residential areas, occasionally residential buildings that have converted to this new usage. These facilities do not focus on residential buildings but on (mental) healthcare buildings including accommodation. The fact that they contain accommodation (in-patient beds) does not make them residential as they are still clinical spaces and treatment takes place in there.

There are several differences between the healthcare and mental health buildings, which disadvantage mental health patients and their provision to care. It should be noted here that the criteria on the effectiveness of the facilities, on which these findings were based, didn't derive from this study but it was based on a reference to the correct state of the art of mental health facilities planning, as well as to dominant theories such as normalisation theory and social re-integration theories.<sup>24</sup>

These findings have implications to NIMBYism and stigma, staff burn-out and patient's engagement to the service and respond to the initial argument of inequalities in health provision on mental and healthcare services. However, there are some interesting points that occur through the interdisciplinary collaboration. The non-medical architects had an initial difficulty identifying the institutional elements. These were easier spotted by the art students. After contribution to the project, the

artists decided they wanted to retain their anonymity. This could have been for several reasons that are beyond the scope of the paper to discuss here but it could also be a result of stigma undercurrent.

## DISCUSSION AND CONCLUSION

In the research we presented above, we identified factors that contribute to the isolation of mental health facilities both in aspects of space and place. Healthcare buildings are better located and better maintained than the mental health ones. Mental health facilities aim at blending in contrary to healthcare facilities that aim for visual attraction, expressing patient-focused ideals. Those facts have direct implications to the way society treats people with mental illness, staff burn-out and patient's engagement to the service, when medical literature suggests that mental health facilities need to be in proximity to people's homes as this encourages more access to usage<sup>22</sup>. This study is part of a broader research project that focused on the architecture of the psychiatric facilities, which is beyond the scope of this study. Here, we examine the existing situation of the facilities and suggest that understanding the surroundings of mental health facilities is fundamental for the care of vulnerable people and the comprehension of our societies by showing that there is a very thin line between discreet facades and the 'out of sight, out of mind' ones.

Even though the study looked at a London Mental Health trust, it still remains a Cinderella compared to its surrounding hospitals easily accessible by public transportation. It demonstrates the obscurity that NIMBYism brings to mentally ill people, placing them inside remote and under-funded facilities<sup>16</sup>.

The project offered a great opportunity of a multi and interdisciplinary collaboration between science, architecture, art and humanities, all centered on the use of visual methods to support the project investigation. Important challenges arose from that collaboration, however, especially in relation to roles within the project team, their expectations and in terms of differences in the perception, methodological tools and especially around the meaning of human-centered approach. In this respect, the architectural team was given the chance to focus on issues related to architectural materiality and design and social inclusion and study evidence-based practices through these multi-interdisciplinary collaborations as already



stated. Additionally, the team was given the chance to deal with potential architectural problem solving for very vulnerable groups such as the mentally ill people, who have very limited ability to influence their environment and who experience the social exclusion, partially as a result of their environment.

In summary, this project put the basis for further research in the future so as to better understand the impact of the buildings of mental health facilities and how this is translated in the provision of care in the community. According to WHO investment on facilities is crucial for mental health provision<sup>25</sup>. It is commonly accepted that cities cannot increase the wellbeing of patients by sustaining buildings that promote antisocial behaviors. This fact, in relation to the expected increase on mental illness and dementia in the near future strengthens the policy need to challenge the current allocation of funds corresponding to facility provision and pay more attention to those underfunded facilities.

We argue that involving service users and passers-by in future studies to identify how they perceive the urban environment around these facilities and studying people's opinion on whether areas surrounding healthcare facilities are perceived as safe as those of the mental health ones, could help in the elimination of this inequality in the community. Moreover, including architectural spatial analysis methods such as Space Syntax analysis<sup>26 27</sup> of the selected catchment area, would help study further the location of the facilities in relation to their social integration and identify whether they are located in an integrated or segregated part of the city.

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# Co-adapting or adopting? Learning from a large-scale comparative case study of four UK architecture firms

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## ABSTRACT

Whilst strategies for co-producing research in architecture are widely debated, the practical complexities and effects of engaging with, discussing and observing ‘designers’ at work are rarely reported. The purpose of this paper is to examine the ‘emotive’ challenges that arise when engaging with different architecture firms in the process of research. The analysis draws on a recent study of four large UK firms’ adoption of new energy modelling technologies within their design practice. Participants included 26 project architects, design directors, architectural technologists and architect assistants based in firms in London, Bristol, Bath and Manchester. Preliminary findings indicate the role emotion, anger and fear can have on ways designers engage as well as reasons they contribute to discussions within research.

**KEYWORDS** architecture, co-production, emotion, institutional theory, research strategies

## Introduction

Co-production is viewed as ‘the process through which inputs used to produce a good or service are contributed (to) by individuals who are not “in” the same organization’<sup>1</sup>. The ‘individuals that take part in this co-production process are seen as ‘actors’ or ‘stakeholders’ that either collaborate or cooperate. While cooperation involves the separation of stakeholders once the project has been completed, collaboration requires an inner transformation by those participating to enable the making of a new ensemble.

Co-producing research is viewed as one of the most effective and productive ways of ensuring research impact across diverse disciplinary contexts. Viewing

research as a collaborative and collective rather than solitary endeavour makes for ‘engaged scholarship’<sup>4</sup>. Boundaries in co-production between the ‘researcher’ (referred to often as the academic) and the ‘researched’ (often noted as ‘practitioner’) often become blurred raising questions on numerous issues from ethics, morality, principles regarding methods as well as time

Within the context of design and specifically architecture, co-production has been explored in the studies of communities, neighbourhoods and cities<sup>5</sup>. In scholarly work on communities, neighbourhoods and cities, co-production is largely interlinked with the concept of ‘resilience’ whereby multiple stakeholders are involved in co-production practices<sup>6</sup>. In design practice research, co-production emerged as an

area of enquiry after the design collective Assemble was awarded the Turner Prize in 2015, followed by Alejandro Aravena's Pritzker Prize (2016). These two awards contributed to the wider recognition and interest in co-production in design practice research.

The process of coproduction in design practice is associated with means by which designers and researchers produce new knowledge that has a direct relevance and application in practice<sup>7 8 9 10</sup>. The focus of most studies, however, has been on suggesting or reflecting upon appropriateness of methods to enable coproduction<sup>11</sup> as well as the effects and role of the researcher<sup>12</sup>. Polh et al.<sup>12</sup> explored the role of the researcher in terms of their contribution to the co-produced knowledge making process. They observed how researchers become 'enablers' between academia and practice. Robinson & Tansey<sup>13</sup> also noted the importance of 'co-production of researchers, players and partners,' when producing knowledge that in itself is a result of the research. Their study examined a five-year interdisciplinary and collaborative research project with 17 diverse stakeholders. The aim of their project was to explore the strengths and weaknesses of what is considered a large interactive social research project using an integrated assessment research method. While Robinson and Tansey<sup>13</sup> and Polh<sup>12</sup> touch upon the potential implications interaction can have such as identity issues whereby boundaries between academia and practice become blurred, its consequences (emotional or otherwise) have yet to be explored.

Emotional consequences associated with coproduction in the context of design practice particularly architecture are largely overlooked and rarely discussed theoretically or empirically. Researching design practice in architecture enables an understanding of a complex array of cross disciplinary processes of relevance to design and non-design domains<sup>14</sup>.

The purpose of this paper is to examine the 'emotive' challenges that arise when engaging with different architecture firms in the process of co-producing research. The analysis draws on a recent study conducted by the authors of four large UK firms' adoption of new energy modelling technologies within their design practice<sup>15</sup>. Participants included 26 project architects, design directors, architectural technologists and architect assistants based in four firms in London,

Bristol, Bath and Manchester. Preliminary findings indicate the role emotion, anger and fear can have on ways designers engage as well as reasons they contribute to discussions within research.

### **Effects of co-producing research in design environments**

Co-production of knowledge depends on characteristics of engagement between practitioners and the researcher<sup>10</sup>. Reed<sup>16</sup> has referred to these characteristics as the "perennial problem" reflecting upon the need for both parties' acknowledgment of challenges that come with working together. Challenges are seen for instance to come about through conflict and tension between operational requirements of practice and intellectual demands of the researcher. This goes back to Schön<sup>17</sup> who advocated for a reform of the relationship between research and practice as research is in itself an activity within practice. Schön argued for scholars to explore the shaping of 'professional knowledge' as situated within an 'epistemology of practice'. He viewed universities as committed to a 'particular epistemology' but not concerned 'in the production and distribution of fundamental knowledge'<sup>16</sup>.

The effects or characteristics of co-producing research in design environments have not been explicitly documented or examined. Exceptions include a study by Buick et al. conducted in the public sector, whereby the authors engaged in a 'multiyear coproduction partnership'<sup>10</sup>. Their analysis was conducted iteratively and inclusively through a reflection of the experiences and practices of both researchers and practitioners<sup>9</sup>. Their study highlights how tensions arise in coproduction of research when differing conflicting drivers challenge discussions between researchers and practitioners. Whereas researchers remain focused and interested in rigour, practitioners emphasise the need for relevance. Although the study notes the importance of understanding emotive concerns such as tensions, the focus of the research is on defining the characteristics, skills and capabilities needed for successful co-production. The relationship between emotion and coproduction work, though emphasised as significant, is not examined.

### The role of emotion in co-production work

The relationship between emotions and work is an emerging area of inquiry in institutional theory beginning to attract significant attention. Recent scholarship begins to understand the motivational force that emotions can have on stimulating particular approaches or (though less well understood) maintaining particular ways of disengaging. Related areas have also explored the effects emotions can have on social outcomes and processes, identifying how anger can be used to mobilize or constrain action or amplify discussions in particular social settings. While there is a growing acknowledgement in organisational research scholarship that emotions have been under researched, it is largely absent from debates and discussions in the built environment research community.

Emotions are viewed as ‘self-organizing dynamic processes that are created with respect to the flow of the individual’s activity in a context’.<sup>19</sup> Emotions have been studied in work settings across different types of organisations. Though co-production in design environments has not been studied, discussions in institutional research that focus on emotion in organisational contexts offer helpful theoretical concepts that enable to better explain this empirical phenomenon. For instance, Creed et al.<sup>20</sup> suggest specific emotions such as shame shape individuals’ commitments to particular organisational prescriptions. Voronov and Vince<sup>21</sup> have similarly suggested that lack of emotional investment in an issue leads to a lack of change or innovation in an organisation. Research has also suggested that organisations often appeal to emotion through particular rhetorical mechanisms in order to facilitate a particular approach adoption<sup>22</sup>. Voronov and Vince<sup>21</sup> illustrate the relationship between emotion, work and wider societal or organisational values, beliefs and rules. See Figure 1.

Moisander et al.<sup>23</sup> further expand this by characterising emotion as affective (love, hate, trust and respect) and moral (pride, shame, anger and indignation). Moisander’s et al.<sup>23</sup> characterisation is drawn upon for this paper as explained further in research methods and analysis.

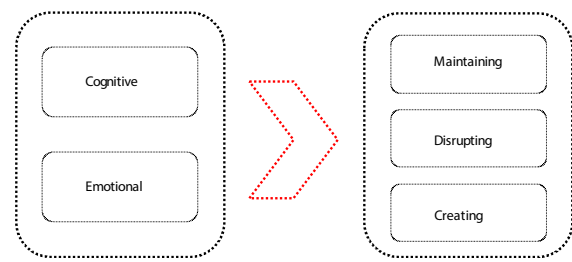


Figure 1: Relational analysis of emotions, work and wider societal and organizational values (adapted from Voronov and Vince 2012)<sup>19</sup>

### Research methods and analysis

The analysis draws on a recent study of four large UK firms’ adoption of new energy modelling technologies within their design practice.<sup>15</sup> Participants included 26 project architects, design directors, architectural technologists and architect assistants based in firms in London, Bristol, Bath and Manchester. Data collection was based on a co-production ethos developing and refining interview protocol and research focus throughout.

### Empirical co-production setting

The purpose of the research was primarily to enable an understanding of how energy modelling was approached in each firm (see also Oliveira et al.<sup>15</sup> for detail of each firm). In each firm co-production was initially discussed with the premise of enabling a wider or more effective adoption of energy modelling practice based on insights gained throughout the organisation.

Facilitators in each firm co-produced the methodological approach to conducting research as well as refining the sampling strategy. For instance, in some of the firms, facilitators would often suggest speaking to senior staff only; whereas researchers conveyed a strategy of inclusive participation and speaking to a range of roles. In one of the firms, co-production involved a continuous iterative process from formalising sampling to conducting focus group sessions to finally analysing data. In other firms, co-production mainly involved the data collection stages and refining interview and/or focus group protocol.

### Data collection and analysis

The methods were rooted in a comparative case study research method<sup>24</sup> whereby the cases were the individual firms and the unit of analysis their



approaches to implementing energy modelling. An initial approach was based on piloting data collection via individual semi structured interviews in conversation with facilitators in each firm. Facilitators in this instance tended to be Heads of Sustainability or Design and Technology coordinators. As this approach led many participants to question their role in the research and wider concerns related to their role in their firm, methods were adapted to allow for informal group discussions via focus groups.

Data was further analysed drawing on an institutional logics perspective to understand the social shaping of key approaches. Three logics were identified: Logic of dependence, Logic of investment and Logic of risk (for detail of how logics were identified as well as explanation of logic properties please also see Oliveira et al.<sup>15</sup>). These logics were then further analysed thematically<sup>24</sup> in this paper paying close attention to characteristics of emotion (as identified by Moisander et al)<sup>23</sup> involved in each logic or across logics.

### Preliminary findings

Moral emotions characterised all three logics; in particular through conveying anger and indignation with regards to participants perceived role in energy modelling but also in their wider role in projects, teams, the firm and industry as a whole. See Figure 2 for an illustration of emotions conveyed across logics.

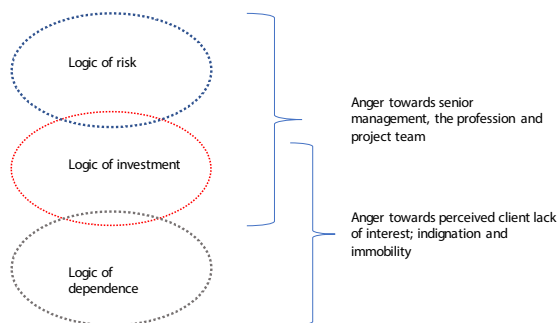


Figure 2: Analysis of emotions across the three logics

The logic of risk reflects participants discussions of liabilities and insecurities related to sharing outputs from energy modelling carried out in house.

Whilst most participants recognised value in sharing outputs of energy modelling conducted in-house, most participants conveyed a sense of indignation related to pre-defined or established design responsibilities. Whilst most participants

would observe that 'it's not the architects role to energy model' they would simultaneously express anger towards their profession or firm for accepting the status quo and not enabling wider adoption of new skills and capabilities related to energy analysis.

*'The profession is generally asleep...for environmental things don't think many people are to be honest with you...they don't care...drawing shapes is more interesting'* (Studio C)

Anger also came across directed towards 'senior management' or the 'board' for expecting 'us to learn yet another thing' at a time when there are 'multiple constraining programme and cost pressures' where the client is seen in some instances 'not to care' about energy in design.

*'I think, often, there are more important things for the client than the energy consumption of the building at stage A or B so I think, to get the right shape and size of a building, you don't necessarily think about the energy requirements...'* (Studio A)

In some instances, anger was directed to the issue of energy itself. For some participants the key design 'old fashioned common sense' approach to achieving energy efficiency had been lost viewing analysis and data driven approaches as yet more 'noise'. Discussions reflected in the Logic of investment reflected the need for recognition of the wider profession of what an architect brings to the table. Indignation and injustice towards a 'shrinking architect' were conflated and linked to energy analysis, seen as a new work addition to an already constrained process.

*'Architects used to be like chefs...now we're like waiters...'* (Studio C)

The third Logic of dependence was particularly emphasised. Its main premise was participants' views on energy modelling and analysis being enmeshed with project dependencies. Client interests and needs were seen to drive an approach or even the application of early design energy analysis. Most participants regardless of role in their firm viewed their design decisions and how and whether to undertake early energy analysis as dependent on client interests.

Whilst some affective emotions reflected these discussions such as a sense of shame, in most instances participants discussed their position as helpless, locked and inflexible.

*'You would be wasting your time...there is no will... What's the point in energy modelling when we don't even*

*look at orientation...*'(Studio B)

As discussed above moral emotions emphasised the strength of presence of a particular Logic and in some instances reasons for participation. The Logic of risk in particular shaped by anger had greatest weight throughout discussions and in many instances anger towards the profession, senior management or the construction industry as a whole were often implied reasons for some participants being involved.

*'In the scale of this, yeah ... I will definitely raise it at my review, but I think it is hard in a practice of this size and the number of big jobs ... there's a lot going on at quite fast pace and it's more difficult I think, I'm not quite senior enough to enforce or enable new approaches...'*  
(Studio A)

### Discussion and conclusion

When questions of co-produced strategies, collaborative research and participatory knowledge building are highlighted, the practicalities as well as theoretical underpinnings of the role emotion can play seem to be largely overlooked. Moral emotions were found to play a big part in how discussions were shaped (during data collection stages) in the case of a research study analysed in this paper. Co-production took place across the firms in formalizing data collection led by facilitators and in participation in focus group sessions. Emotions are reported here in the context of the discussions that took place within the focus groups.

Whilst emotions are recognised in research as mechanisms that motivate particular action,<sup>21</sup> they are rarely reported as drivers of coproduction discussions. In the case of this study, discussions whilst semi-structured took on different 'emotional' characteristics de-structuring notions of professional roles and responsibilities regarding energy modelling as well as broader environmental concerns, the firm itself, hierarchies and management as well as team concerns.

Emotions are an intrinsic part of cognitions, beliefs, and moral judgments and, as such, implicated, in many ways, in the processes through which people make sense of and participate in research processes. Emotions, both negative and positive, trigger sense-making and animate self-regulation<sup>18</sup> and can thus be mobilized to fuel, enable, and constrain the direction of particular research aims.

Whilst co-production research has hinted at the 'perennial problem' of researchers' and practitioners'

conflicting motives,<sup>15</sup> it has not explained how this problem is worked through, expressed and characterised. This study points to a suggestive theoretical underpinnings that could help explain some of the 'problem' facets. The study, however, does not yet examine how the researchers manoeuvre the emotion encountered - an area for future work.

In addition, the findings presented in this paper are a preliminary attempt at uncovering the role emotion plays. However, future work needs to further examine properties of anger, shame and indignation as an explicit emotion work in the context of coproducing research.

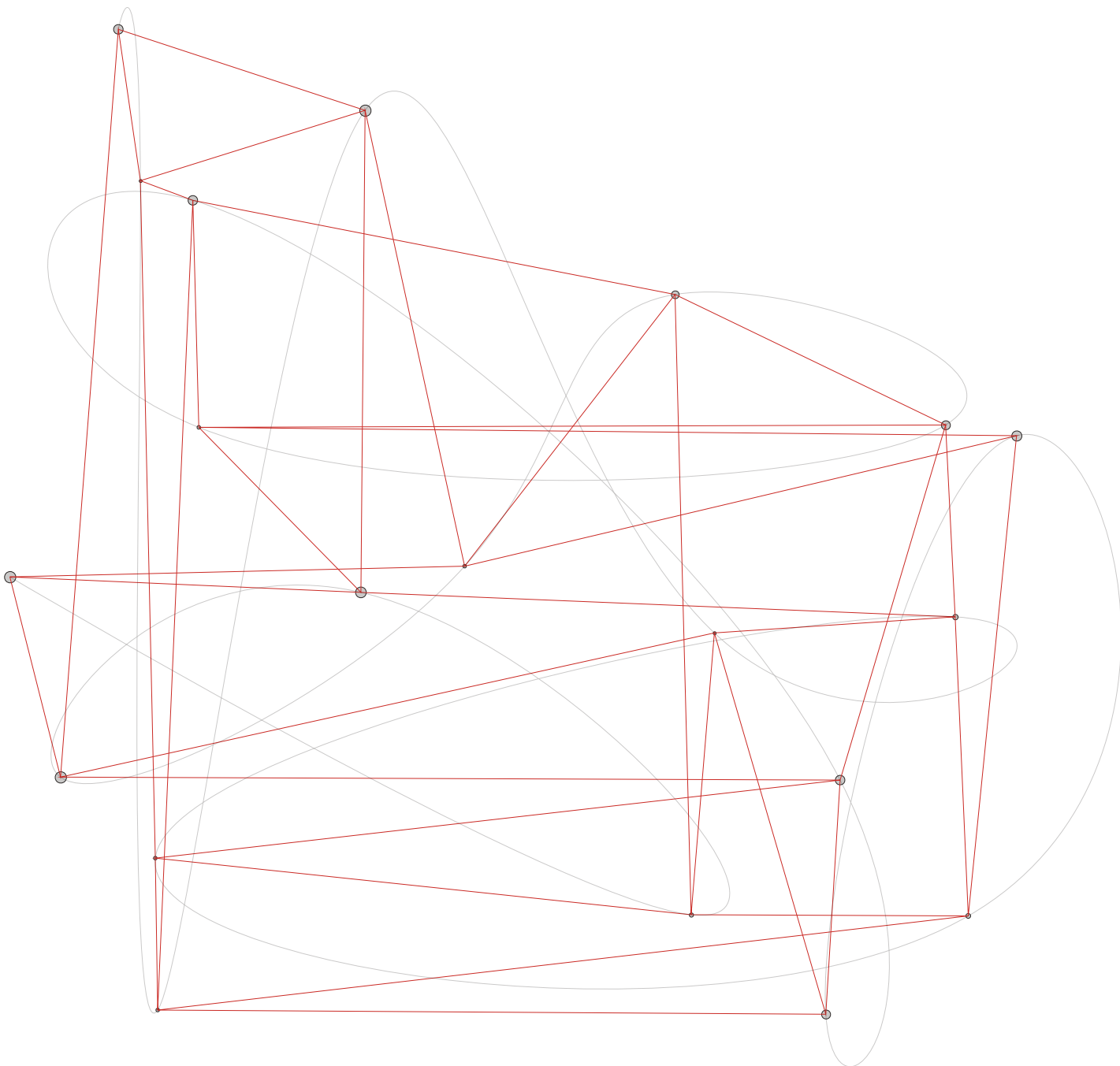
The implications of the findings are threefold. First, the study provides a novel way to explore and debate the ways research strategies are communicated, understood and represented in practice. Second, there are implications to the wider current debate on research impact, its relevance, reach and long-term need in an industry often viewed as disconnected from academia. Finally, the analysis provides a much needed insight into the role emotion can have in stimulating, influencing and mobilising particular strategies in a research-project.

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## 1.2 RESILIENCE



# Ghostlands. Celebrating community in the dying towns of America's Midwest

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## **ABSTRACT**

This paper examines the historical and cultural causes and implications of population loss leading to dead and dying communities, specifically in the American Midwest, and presents the outcomes of a series of design-build studios conducted as both an investigation of and a response to the phenomenon. During the latter half of the twentieth century, small rural towns and farm communities throughout America's "heartland" have been slowly disappearing.<sup>1</sup> Due to the shifting social, environmental, and economic landscape, population loss has plagued Midwest rural communities, as people move towards better opportunities in cities or as smaller communities consolidate into larger, more centralised towns. The condition has been dramatic enough to lead states like Kansas to record the ongoing population loss on an official Historical Society "Dead Towns" list, documenting over 5000 such places.<sup>2</sup> Working with groups of architecture students during three studio courses over eight years, we developed a hybrid approach of expeditionary learning, public interest design, and design-build, leading to community workshops and small, built infrastructure projects in multiple dying "ghost towns" in the US states of Kansas and Iowa. Drawing upon historical research, conversations with members of the community, and experiences in traveling thousands of miles across the western United States to ghost towns both modern and ancient, students developed critical responses to immediate needs of communities. These included town signage, outdoor gathering spaces, and micro-museums in an effort to mark and remember these disappearing places, rather than attempt to restore them. Although it was understood that many of these communities would eventually cease to exist, projects were designed and implemented toward fostering community identity, reclaiming cultural space, and conserving collective memory as a way to celebrate the history and surviving presence of the people and place, while leaving a trace for future generations to consider. In addition to the standard design-build pedagogical objectives of site design, design detailing, and materials and methods of construction, students were exposed to the principles of public interest design, such as asset-based development, programmatic sustainability, and mutual benefit. An historical and cultural analysis of the phenomenon of dead and dying towns is presented here, along with an assessment of the studio experience, including an evaluation of community engagement and the design process, built work, and student and community feedback. This assessment evidences both the successes and failures of the pedagogical and practical strategies implemented and reveals the quality and effectiveness of a pedagogy of community-based design-build in the public interest of dead and dying towns.

**KEYWORDS** Ghost Towns, Design Build, Live Project, Community Based Design, Public Interest Design



*"Babylon once had two million people in it, and all we know about 'em is the names of the kings and some copies of wheat contracts."*

- Thornton Wilder, *Our Town*

## Introduction

### *Small towns in America are dying.*<sup>3</sup>

Other than in mainstream books generally related to the Old West and on obscure and poorly designed websites, information on "ghost towns", especially on those located in the American Midwest, can be hard to find. Oxford Dictionaries defines a ghost town as "a deserted town with few or no remaining inhabitants";<sup>4</sup> but then, how can a *deserted* town have inhabitants? While there seems to be no fixed criteria for what defines a *dead* or *dying* town, it is related to amount of population loss over a period of time, the factors for which are numerous. Historically, reasons for population loss or abandonment ranged from geographic location to climate, but were primarily political and economic in nature. Although the death of a town is not typically a product of a single condition, but a combination of causes.<sup>5</sup> Major metropolitan centres are not exempt. Much of West Baltimore in areas such as Sandtown, the Lower Ninth Ward of New Orleans, and half of Detroit have become ghost towns during the last century due primarily to the changing culture, the loss of manufacturing, and neglect.<sup>6</sup> And, periodically, natural or man-made disaster can affect abandonment, as in the cases of Picher, Oklahoma, which was wiped out by a tornado in 2008,<sup>7</sup> and Centralia, Pennsylvania, abandoned due to a lingering, toxic coal seam fire burning since 1962.<sup>8</sup> But, apart from horror fans, history buffs, and amateur treasure hunters, there doesn't seem to be much interest in dead and dying towns, at least academically. No interest that is, except from the people who still live in them.

Emigrating from a variety of places beginning in the early 19<sup>th</sup> century, the early settlers of the Midwest – Kansas, Iowa, and Minnesota, in particular – came from eastern, southern, and middle states, but their lineage largely represented Northern Europe and Scandinavia.<sup>9</sup> They came for land, for a future, and for a new way of life. However, they aspired to more than

adventure and fortune. Through all of the extreme hardships, they had a vision beyond the corn and the cows. Over the next two centuries, they would become able to sustain a nation and more. Willa Cather was not exaggerating in her portrayal of the kind of people Midwest settlers were. They were fearless risk takers who reached beyond to work for something bigger than themselves. Labouring together as communities because they would never survive alone, much of what they did went unsung and unheralded.<sup>10</sup> Life was hard, and they met it with resolve and a great deal of pride.

During a year-long architecture studio at Kansas State University and two subsequent summer design studios at Iowa State University, working with more than 45 students over that time, we investigated the condition of dying towns in the Midwest, connected with communities, and constructed small, infrastructural responses based on community feedback. This paper, along with examples of the process and built work, presents a brief historical and cultural analysis of the phenomenon of dead and dying towns, strategies for community engagement and developing the design process, and tactics for implementing an architectural response. While the bulk of the work presented here was constructed in Mackey, Iowa, we worked in several towns in Kansas, as well, including Blaine, Holland, Miller, Wilsey, and Wheaton. Rather than an effort to rebuild, revive, or resurrect, our work was meant to reclaim lost cultural space, conserve a vanishing collective memory, and to celebrate the people who came and have gone.



Figure 1. Mackey, Iowa. Mohammed Khesroh.

## Boom and Bust

European and American settlements in the Midwest first appeared significantly during the 1830s, following the Louisiana Purchase of 1803 and the War of 1812. By 1860, nearly the entire state of Iowa was settled and farmed.<sup>11</sup> During this rapid transformation, early settlers faced off with Native American peoples from the Ho-Chunk Nation, Fox, Sauk, and Lakota, and made the marshy northwestern part of the state suitable for agriculture. The Civil War, the rise of the railroad, access to the Mississippi River supply chain, and the Industrial Revolution all fed the burgeoning Midwest economy. By the early 1900s, small towns and small farms across the region were thriving.<sup>12</sup> At this point, many now defunct towns were in their heyday, and there were more schools in Iowa than in any state in the US. This led a local to say that once, while perhaps not the *best* educated, Iowa was the *most* educated place on Earth.<sup>13</sup>

While World War I increased prosperity for Midwest farmers, the period between world wars, combined with the Great Depression and the advent of industrialized agriculture, led to the first string of many economic hardships they would face. Following World War II, the institution of a national interstate highway system led to the decline of the railroad. This in turn led to a draw on the rural population toward major metropolitan manufacturing centres in search of better financial stability,<sup>14,15,16</sup> and the rise of agribusiness by corporations like DuPont and Monsanto, who ate up small farms,<sup>17</sup> cut the number of farms by 50% by 1980, while the average acreage per farm more than doubled. A dwindling lack of resources and infrastructure in rural areas led to increased incorporation and consolidation of townships, school and political re-districting to centralize government. By the end of the twentieth century farmers were less than 2% of the US population, with 90% of income for farming households coming from non-farm sources.<sup>18</sup> Current factors leading to the death of Midwest towns are the aging population and “brain drain”, in which the younger, educated population moves to urban areas looking for a different life.<sup>19</sup>

Mackey, Iowa, where most of the work presented here was constructed, although it had a post office was never platted as a town. It was part of Harrison Township organized in 1971 and named for William Henry Harrison, the ninth President of the United

States.<sup>20</sup> The town takes its name from Sebastian Mackey, a settler from Illinois and Ohio who moved to the area in 1856 prior to the organisation of the township. The town grew up around farming and a small lumber industry. It eventually had sufficient population to support several businesses, a church, and a one-room school house, built first in the late 1850s and rebuilt in 1901 or 1902 for the cost of \$160.<sup>21</sup> Mackey reached its peak population in the 1920s and has steadily declined since, now home to fewer than a dozen people. As of the 2010 census, Harrison Township had a population of 354, of which Mackey is a very small part.<sup>22</sup>



Figure 2. Installing town sign. Chelsea Brtis.

## Strategies for Action

Many of the 100 design build, or *live project*, programs of the 123 National Architectural Accrediting Board (NAAB) accredited architecture schools in the US focus primarily on two things: student education and capital “A” architecture. However, most manage to address the NAAB criteria for design build of collaboration, ethics, and community and social responsibility.<sup>23</sup> Far from the early days of the Rural Studio’s mission of social good, current programs experience problems related to overblown scope, scale, cost, and workload. Programs have become known for their “signature” projects and architectural statements.<sup>24</sup> Between mitigating the practical and professional risks, managing the demands of shifting roles of practice and education, providing a transformational educational experience for students, and delivering a publishable and awardable architectural product, the concerns of the community can get lost.

A few programs, such as the Portland State University Public Interest Design graduate certificate program, and organisations such as Design Corps, MASS Design Group, and bcWorkshop put the community first. They focus on what has become known as the “triple bottom line” of social, economic, and environmental design.<sup>25</sup> As a founding member of SEED,<sup>26</sup> I have always placed the social, economic, and environmental concerns of my work and the community at the forefront, regarding whatever architecture to happen as a by-product of a social process. While environmentally, our work in these dead and dying towns should and, in fact as students self-financed the projects, required we be as resourceful as possible, the issue of an economic goal in this context was a non-starter. Primary goals of community-based and public interest design tend to be recovery, resilience, and finding ways to improve, advance, and, in some cases, rebuild communities. However, in considering the gravity of the problem and the inevitable extinction of these towns, it became clear that our strategy here must be different, less about recovery and resilience than remembrance.



Figure 3. Expeditionary learning. Sean Davies.

While most of my earlier community-based work was done through a non-profit organisation, Project Locus, that I founded in 2001,<sup>27</sup> the Ghostlands studios were institutionally based and, therefore, necessitated that we meet NAAB criteria and curricular requirements where student education was concerned. Because of this, the studios were structured to include equal parts research, both sociological and historical, and design build. Considering the scale of the problem, spanning across the western United States, and our very limited resources in terms of time,

money, and skillsets, students chose to look at the hundreds of ghost towns as a network. They connected them at large through historical data, oral storytelling, and personal experience, while developing a language of small-scale infrastructure meant to mark and commemorate place. Ultimately, our intention was to execute the highest level of design and construction possible given our limited resources, working in concert with and directly for the communities in which we operated.

### Tactics of Engagement

In terms of the project in Mackey, Iowa, following a few brief meetings with local community members during the first week of each of the two summer studios, we spent the next fifteen days on the road, traveling six-thousand miles across the West. We travelled in a passenger van following the collective memory of abandoned sites and settlements throughout the history of the American West, including the first native settlements, the modern ruins, and the ghost towns of the Midwest, and camping in national and state parks, while taking in the vast and beautiful landscape. Given the short eight-week duration of the studios, our mode of expeditionary learning allowed us to accelerate the acquisition of practical skills and the motivations necessary for the task ahead through constant team building and project management.<sup>28</sup> Along the way in continuous close quarters, students coordinated day-to-day logistics; and conducted field work by recording the journey through writing, drawing, mapping, photography, and film. In camp or along roadsides, they periodically constructed doppelgangers,<sup>29</sup> or “ghostly doubles”, of moments within the context, either real or imagined. These were constructed using found and readily available materials and objects. Finally, the trip allowed them to make links between the places they went and their design ideas, understanding how they were tied together through a simultaneously unfolding and vanishing landscape. Constantly moving, meeting people and seeing places with seemingly nothing in common, they found inspiration for the project in Mackey and ways to connect them all.<sup>30</sup>





Figure 4. Teamwork. Bec Ribeiro.

Unlike the studio in Kansas, when we had a full year working with five small teams of three students in each of five towns, there was little time in Mackey for the students to get to know the community and build their trust. Borrowing tactics from the early Rural Studio,<sup>31</sup> students worked as a single group and spent the first week doing odd jobs. This included painting and making repairs to the school house and church, planting flowers, putting up a flag pole, and spending a lot of time informally chatting with people from town, as they prepared proposals at night based on their conversations for a community design review at the end of week four. We adopted and worked based on the following simple standards or practice, principles that I have developed over the past fifteen years and do my best to apply in every community project:

- Listen.
- Finish what we start. All projects must be completed regardless of the studio schedule.
- The members of the community for whom we design are considered to be our clients, as they would if money had changed hands. Expectations should be met in terms of schedule and deliverables.
- There should be an expectation of mutual benefit built into the process. The process is not charitable.

You are receiving a valuable learning experience, college credit, and material for your portfolio. The client has a right to demand a quality product, on time.

- Products should be sustainable not only environmentally, but also economically and socially. The capacity of the client and community to maintain and sustain products over a reasonable lifecycle must be considered.
- Under-promise and over-deliver. Never promise something we are not able to deliver.
- We must not compete with the private sector.

We used asset-based development<sup>32</sup> to generate material streams by deconstructing an old barn for the lumber, to learn from and work with community members and stained glass craftspeople Judith and Keith Carlson to fabricate glass panels for our project, and to compile hours of recorded oral histories from many of the more elderly residents.

During the final four weeks, students constructed a number of small-scale infrastructure projects, including a town sign, placed by the highway into town, and a cemetery sign with map and legend by plot, located up the hill at the church. They built a bench, a table, and installed a steel park barbecue grill. Primarily, they focused on designing and building a replica of an outhouse that used to be on the site. At first, it was a shock when proposed, but the students suggested reconstructing it after recognising through conversation that it was one of the sore-spots residents referred to when talking about how the town had changed, recalling how county maintenance had come to haul off its dilapidated remains years earlier. Rebuilt entirely out of recycled materials, it was reimagined as a small, or *micro*, museum to house artefacts, images, and stories of Mackey's past and became the centrepiece of the site.

## Conclusion

The physical outcomes of a design build project are clear, as usually are the immediate successes, which those who practice and benefit from community-based work are all too eager to accept. Brand new construction, the forming of fresh and intense relationships, and a general sense of reinvigoration around people, place, or ideas can be incredibly uplifting and, in some cases, life affirming; but these

effects are generally short-lived. Measuring the actual impact of community-based design projects can be challenging, if not impossible, although some still like to try.<sup>33</sup> Following the enormous expense of energy, effort, and capital that these projects typically take on behalf of everyone involved, failure can be hard to acknowledge.



Figure 5. Outhouse micro-museum. James Spiller.

From a purely community development standpoint, the Ghostlands projects were an utter failure, as they were always doomed to be, considering the inescapable demise of the communities in which we worked. In the aftermath of the project, personal relationships between the team and the community were difficult to maintain as students returned to their studies, graduated, or moved away, leaving some to feel after such an intense experience as though they were left behind, in a vacuum. Further, the disparity between the depth of need, the advanced state of decline, and our capacity to act in terms of resources and skills left some students and many at the institutional level wondering what the fundamental point was to our work.

Ultimately, the work of Ghostlands was a model of sustainability and ethical practice. All of the studios and projects were self-financed and completed for less than a few thousand dollars using repurposed, reused or recycled materials and hardware, and solar panels

to light the outhouse, which still worked the last time we checked. As evidenced by student and community feedback, the experience was transformative. A few students even returned to Mackey to work on paid projects as hired, independent contractors, using welding skills they learned in Ghostlands to fabricate a handicap ramp for the church. Summing up the fundamental point of our work most accurately, perhaps, was resident Keith Carlson, a retired English teacher of 30 years, when he said:

“It felt like aliens had landed, and not in a bad way. After living a normal life for 80 or more years in the same place, you come think that nobody cares or notices your existence. Then, you all show up out of the blue and tell us that we matter. At my age, that means a lot.”

The one true success of the work, in the end, was something most see as a failure: the realisation that architecture can’t change the world. The success is in understanding that it is people who do. For sure, a confident, ethical, and socially responsible architect can. The fundamental point of our work, that I can only hope the students understood, was in the lesson that what is most important about architecture is not in making buildings, but in building relationships.

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# Learning from Failures.

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## ABSTRACT

There is a lack of information about the success and – even more importantly – the failure of the processes and the multiple outcomes of academic DesignBuild projects, beyond the images released. The first part of this paper defines the success-criteria of outcomes on different levels, divided into two main categories, and describes a set of parameters and measures that impact the quality of the project. In the second part, two comparable case studies highlight the dramatic consequences of the achievement and failure to fulfil just a small section of these parameters.

**KEYWORDS** success, failure, academic DesignBuild

Realised academic DesignBuild and Live Projects present a wide range of intended and unintended tangible and intangible outcomes. For each stakeholder – students and faculty from different disciplines, users and clients, donors, public and governmental organisations – the success of the outcome differs in relation to their role and aspiration for the project.

However, in publications the projects all share their presentation as professional architecture, showcasing photos of recently completed, successful products and of students working enthusiastically.

Yet reduced to the ostensible visual aspects, this compelling and for many reasons important demonstration of success is deceptive.

In the best case, it demonstrates the accomplishment of the task in delivering a piece of built environment and provides information on the architectural quality at the moment of delivery. The influence and effect of the product and the production process on the different stakeholders and actors, on the socioeconomic context and the medium- and long-term performance of the building cannot be shown in this way. In the worst case, it simulates the success of a project that has become a burden for the user.

Although the projects are by definition embedded in a teaching and research environment, there is a lack of accessible and honest evaluations, and long- and even medium-term documentation that would

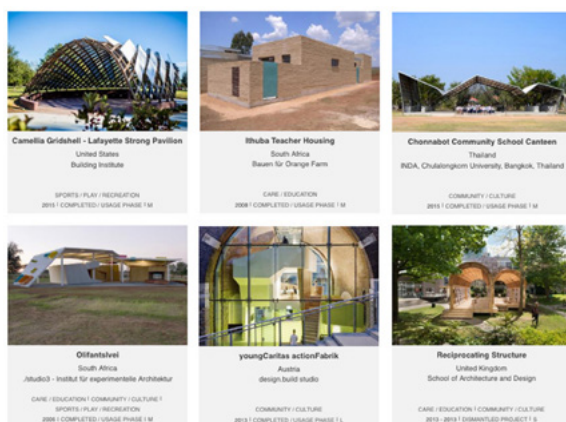


Figure 1: Thumbnails of projects posted on the dbXchange. eu webpage <http://www.dbxchange.eu/designbuild-projects>

provide information on the success and, even more importantly, the failures of processes and the project's multiple outcomes, beyond the images.<sup>1</sup>

The first part of this paper defines a set of success-criteria of outcomes related to two main categories: 'Building and Local Implementation' and 'Education and Training'. Measures that help to achieve the outcome are suggested. The categories reflect the statement of the Austrian DesignBuilder Fattinger that the educational outcomes of academic DesignBuild can be referred to the pedagogic methodology of 'project-oriented learning', after Gudjons, but has to consider equally the resulting visual and functional output.<sup>2,3</sup>

The criteria are findings of the analysis of about 32 academic DesignBuild projects realised since 1998 in Mexico under the direction of the Technische Universität Berlin (TU Berlin), that aspire to be of socio-cultural, economic and ecological relevance. The projects have been monitored and visited several times by the author and have been the subject of two research projects undertaken by former participants.<sup>4</sup>

The criteria can be used as assessment for completed and future projects and may help to identify unintended but potential outcomes. These two selected categories cover a comprehensive range of success-criteria but must be completed by aspects such as liability, health and safety, finance, communication and knowledge transfer and should include other actors, such as donors or the university administration. External factors such as climatic or political conditions are not considered, but nevertheless they can be of relevance.

In the second part, two DesignBuild projects directed by the author at the TU Berlin offer comparable case studies that highlight dramatically different project performances. For this paper, the obvious level of use and misuse, maintenance and quality of appearance of the built project offers evidence for evaluating the projects – one turning into a successful, active enterprise, the other falling apart and becoming a huge burden for the user responsible for it.

## Part 1. Success Criteria

### 1. *Building and local implementation*

In this chapter, parameters and measures are described that are applicable to the tangible object—the

building—and its possible impact on the local context and actors such as client, users and future owners. The aspects used in measuring its success are the fulfilment of the criteria (completion within the timeframe) as well as the condition of the building, its maintenance, modification and use/misuse after a period of at least four years, documented by questionnaires, structural analysis and photos.

#### 1.1 Building (object) and process

Completing the building within the financial framework, timeframe and the agreed scope or: assuring completion by providing knowledge and financial means.

Production of space that is appropriate to the use and the local context and of high spatial and architectural quality.

Acceptance of the appearance, techniques, material and typology by the local actors; assurance that technical and manufacturing quality is appropriate to local standards.

Use of cost-effective building materials and techniques; use of regional and sustainable materials and techniques taking account of the possibility of their being used by unskilled students and local actors.

Use of building techniques adapted to climate and hazards.

Ensure the technical maintenance and sustainability of the building.

Appropriateness of input related to impact.

#### Suggested measures

The expectations related to scope, scale and design should be discussed and protocolled transparently with the clients and users to assure that every party involved shares the same goals. This should be related to the level of delivery and the type and material of the structure. The appropriate scale of a project is not only related to the expectations of the clients and the functionality but also to the capacity of the building team and the circumstances of its realisation: the number of team members; their skills and motivation; the level of cooperation with the community / user; the access to local expertise; the complexity of the design; the access to building materials, tools and machinery; the climate and health conditions.

Building techniques and clear technical details should be developed in correspondence with the

skills of the executing students and local knowledge. Therefore, research into contemporary and accepted building typologies should be carried out through preliminary research, field studies, literature research and consulting prior expertise. Building techniques that are not known locally may be adjusted to suit the local skills or the knowledge transmitted to local craftspeople. If necessary, the project must be adapted.

It is very important to communicate the expected lifetime of the project in relation to the level of maintenance, above all in societies where there is a poor or no culture of maintenance.

Peers from partner universities should be embedded in the whole process from research to completion. All necessary expertise should be accessed during the design process (engineers, experts, craftspeople and alumni). Workshops during the design process (masonry, carpentry, power tool handling) increase the quality of execution. 'Training on the job' possibilities for local people during the building phase should be taken into consideration, on the one hand to benefit from knowledge transfer, and on the other hand to make sure that awareness and knowledge of structural maintenance is delivered.

### 1.2 User, client, specific target group

Selection of project according to the highest benefit for the community.

Satisfaction of the required use taking account of the relevance for the target group.

Assurance of property rights and user rights.

Assurance of appropriate governance/leadership of the client/user as stakeholder.

Sustainability of maintenance and use (frequency and appropriateness of use, size, economic potential, knowledge and long-term involvement of target group, technical know-how and motivation for maintenance).

Support for self-sufficiency, self-esteem and financial independence in partnering countries.

### Suggested measures

It is essential to select the project carefully. The future users and clients should initiate the project and should demonstrate an established long-term activity and their embeddedness in the local socio-economic structure.

The client should be able to discuss the scope of the project and should be able to manage the building

and its use after completion in a sustainable way.

User scenarios can be developed. A locally embedded, trustworthy NGO or local actors may help in this process. The client should own the legal rights of the building site and should verify this by presenting legal documentation of property rights and user rights.

Duties and expectations, the build outcome, and the expected lifetime cycle in relation to maintenance have to be discussed and transparently communicated. Cooperation with reliable local monitoring networks that are embedded in the region should be established.

### 1.3 Social embeddedness of building process

Acceptance of the building process and accommodation of the building crew in the local community.

Generation of income and knowledge during the building process.

Facilitation of community enhancement by the completed project:

Generation of income.

Enhancement of education.

Support of culture.

Empowerment, consolidation of self-esteem, cultural identity and community-building.

Mobilization, stimulating change

(See also SEED evaluator criteria).<sup>5</sup>

### Suggested measures

Preliminary workshops during the design phase regarding language, culture, tradition, religion and economy can be held. A communication structure between the parties involved during all phases should be established, via Skype, email or assemblies.

The local written and non-written rules should be observed and local stakeholders as authorities and influencing people and their potentials should be identified and consulted.

A good communication structure by periodic meetings and assemblies can enhance acceptance by the community. In addition, social events related to the building process help to gain acceptance by the local community. Materials and labour should be purchased locally.

The involvement of the community and users by contributing to the building process in the form of food and accommodation, building materials, transport and collaboration enhances identification with the project.<sup>6</sup>

## 2. *Education and training (institutional framework, actors, curricular and extra-curricular structures)*

Education and training refers to success-criteria of the institutional framework and curricular structures and to the impact on the students as a target group in relation to knowledge acquisition. Success can be asserted by the simple fulfilment of the criteria (completion on time or implementation, craft workshops during the design phase, credits obtained) but are much more difficult to assess in 'soft' or social skills. Surveys have been made but are not satisfactorily evaluated. The completion of the DesignBuild project is a valid indicator for success.

### 2.1 Curriculum/academic success (related to students)

Completion of the term, low dropout rate.

Achievement of an appropriate amount of relevant credits and certificates in relation to the workload and related subjects.

Collaboration with different disciplines.

#### Suggested measures

In all DesignBuild studios I managed or directed, I never witnessed a dropout. This might be due to pre-selection of the members to guarantee a powerful team but may also be due to the character of the project: to complete a student-designed building during the education process strengthens identification with the project and taking responsibility for a highly complex and meaningful project enhances commitment. Cross-disciplinary and intercultural experiences such as those offered by a DesignBuild project are rare in other design courses, especially if executed as student collaboration. It is important to communicate the requirements transparently to the students: high workload, physical stress, financial contribution (travel and accommodation expenses), living circumstances (low level of comfort, difficult hygienic situation, and foreign cultural context).

Curricula structures differ from university to university. In some universities, DesignBuild projects are part of the regular curriculum while in others it is still difficult to achieve the embedment of the coursework especially if other disciplines and (partner) universities are involved. At the TU Berlin it was possible, after about 6 years of DesignBuild

practise, to implement and modify modules with a reasonable score-rate, in relation to the workload for architects. For other related disciplines, it is still difficult for students to gain relevant credits for their work. The communication of successful projects through exhibitions, presentations and publications was essential to gain support in adapting curricula structures. Long-term engagement and good personal relations are necessary to convince the academic structure of the benefits of the collaboration. Structural change is hard to achieve.

### 2.2 Professional skills (design and building-related)

Achievement of knowledge in: Basic evaluation, preliminary design, building design, approval planning, execution planning, drawing management, 3D modelling and crafting, digital fabrication.

Achievement of knowledge and implementation of building construction management, cost and time management.

Successful documentation of planning and building process.

Hazard-adapted building technologies (earthquake, hurricane).

Assurance of knowledge of local building techniques and traditions (clay building, timber, bamboo, natural stone), material and labour costs as well as contextual conditions: culture, society, economy, religion.

Development of enhancement strategies of local techniques.

Successful review and adaption of goals and design to the real context.

Skills in craftsmanship (carpentry, masonry, concrete work, steel work, landscaping, safe use of power tools and observance of safety regulations).

Achievement in different related disciplines: architecture, civil and hydraulic engineering, landscape planning as well as sociology, ethnology.

#### Suggested measures

The composition of the student and faculty team is a crucial element to achieve a successful performance and built output. The student team should provide most needed capacities. A team including architects, landscape architects, civil engineers and students of other related disciplines is favoured but



in architectural projects, the architecture students should dominate. Students with vocational training in carpentry, masonry should be part of the team as well as students with high design qualities and students with management qualities. Female and male students should be balanced. A selection process via application letter and – most important – interview can help. The expertise of engineers and other experts should be provided by faculty or by engaging professionals. DesignBuild alumni can be invited to share their knowledge. Craftsman and professionals (engineers etc.) can be invited to instruct and train in crafts and the use of materials, tools and power tools during the design phase (clay workshop, wood and masonry workshop, welding). Professionals should be present during the building site to guarantee safety and quality. Safety regulations should be communicated, trained and monitored (appointment of a ‘safety agent’ on site).

The design phase should be initiated by a research part on local culture and society as well as building tradition and contemporary techniques and the local built context. Good communication with partner universities (students and faculty) and local cooperation partners, as well preliminary site visits could assist. In order to increase knowledge in all design phases, a DesignBuild project should be run by the same team from the preliminary research phase, through the documentation of the process, and to the final built result.

The design progress and delivery should be divided into identifiable steps, controlled and communicated with the clients and the other partners. A good and regular communication structure should be set up (Skype, email, social media). The implementation of digital plan management tools (BIM) can enhance the execution-planning phase and ensure that all team members have access to all the information required.

The initial design phases can be run competitively but should lead early on to the executed project design, to ensure that every member of the group can engage in the further development. Students should be involved in design decisions (juries). A strong spatial and functional quality and the execution capacity should be part of the decision criterion. Tasks and responsibilities should be divided among the team early on. A good working space that is accessible day and night as an ‘office’ enhances teamwork and team-building.

### 2.3 Inter- and socio-cultural skills

Awareness-raising for development aid policy and globalisation (poverty, pollution, illiteracy, migration, inequality, loss of cultural identity).

Communication ability in local language

Gaining intercultural skills: acceptance of cultural diversity (international, regional, social, gender-related).

Gaining inter- and transnational skills.

Gaining capacity for teamwork, self- sufficiency, conflict resolution and stress resilience.

#### Suggested measures

To achieve those goals, the selected project should be of clear humanitarian significance. The project should include divergent cultural, social and economic levels in order to stimulate dialogue. Careful and optimal preparation, well-balanced communication with the local partners (academics and non-academics) and a deep immersion in the local culture and context is therefore necessary. This should be complemented with information and discussion on global development strategies. An academic exchange is useful at every stage of the project (ideally as early as possible), since the embedment in academic exchange programmes can support the funding for travel expenses. Knowledge of the language spoken on the project site should be assured, as part of the team selection criteria, or by taking language lessons during the design phase to guarantee at least rudimentary communication abilities.

The project development, goals and achievements should be discussed and agreed with the team on the basis of a strong and transparent structure to stimulate scientific and self-directed work. The team assures the accomplishment of the task and therefore should be aware of its own capacity and responsibility. In addition, the project leader should trust in the abilities of the group and should intervene in the process and constitution of the group only in very urgent situations. Group dynamic strategies can be developed and discussed, a challenge during the design phase, to solve problems under stress (as a benefit party) could show abilities and weaknesses of team members and will enhance the collective.

A residency on the local site of a minimum of 4 weeks enables both students and locals to gain intercultural skills by living, working and celebrating

together, and achieving a common goal.

## Part 2. Case Studies:

In the following case studies, two comparable projects of architectural and spatial quality are presented. They deeply affect the clients/users as local stakeholders. Due to the different implementation dates, one project has been monitored for nine years, the other for five, but this difference is not essential. Both have been planned and implemented under the same parameters: approximately 20 students involved, a construction budget of about €25,000, three months of planning and a seven-week implementation period, similar cultural and economic contexts, and constructions of a similar complexity.

The first, the 'Stage of the Music School Rodolfo Morales 2007' unveils the contradictory situation of a successfully run DesignBuild course producing a high quality piece of architecture that became a strain for clients and users going along with collapse and deterioration of the building. It is contrasted by the second, the 'Jam Manufactory for Naxí 2012', that can still be seen as successful on most levels.

### *'Stage of the Rodolfo Morales Music School'*

The project is located in Ocotlán de Morelos, about one hour from the city of Oaxaca in the central valley of Oaxaca, Mexico.<sup>7</sup> It is a small village of about 20,000 inhabitants, with good conditions and accessible building materials. The client / owner is a cultural foundation, very well embedded and accepted in the whole valley. It was founded in 1986 by the internationally-known painter Rodolfo Morales, who invested the money from the sales of his pictures in saving the cultural heritage and supporting the education of the youth.

His idea was that the music school should support the local music culture, omnipresent at every family event. With this foundation, we undertook several projects between 2001 and 2003: the restoration of a baroque church in Mudejar style. The roof was restored over two years, guided by existing historic drawings and found through the building process. A restoration of an altar and market stands. Third was the first phase of the Music School compound, completing two buildings – an office building and a rehearsal hall in the traditional adobe (clay) brick.

Unfortunately, the 'Maestro' died in 2000 before we concluded the first project but the foundation continued working.

In 2006 we negotiated with the new director, an Oaxaqueño Architect, to complete the compound with a covered stage for concerts, an outdoor kitchen for events and the surrounding garden-space. The project was completed in 2007.

Obviously, process and product of the 'Stage of the Music School Rodolfo Morales' showed evidence of a successful implementation of the task: the result of the design-studio was a project of high architectural quality and huge potentials for use.



Figure 2: Students of the Music School Rodolfo Morales, in front of the rehearsal hall 2004 (Huhn)



Figure 3: Stage of the Music School, stage (right) outdoor-kitchen (left) 2007 (Hartig)

It was completed within the time and budget. The design and construction details were realised as planned. All students had their experience validated. Mexican students and local youth took part in the

process. The compound was built out of local materials, incorporating local know-how while also meeting the client's aspirations of modernity. The design met cultural requirements such as the outdoor kitchen and framed the whole compound of the music school with plants and a welcoming atmosphere.



Figure 4: Stage of the Music School, shading detail of the stage 2007 (Hartig)

The future users – the parents of the music school students provided food for the students, the foundation funded the building materials and supported the building process. The inauguration was crowded with people from the village, celebrating the completion.

A year later, a visit showed that the compound had been modified, meeting local tastes by painting the raw concrete surfaces, which is in general a sign of acceptance and use. Looking closer, we could see that the past rainy season had revealed the first weakness: the red coloured surfaces were covered with weeds. The stage did not show evidence of frequent use, although the *Maestra* of the music school, in charge of teaching the young musicians, confirmed that the orchestra held some performances on the stage during the year. In April 2012 Daniel Becker documented in his investigation a pitiful situation:

the weed of the compound had recently been burned down, the adobe wall at the back of the stage had fallen down, supposedly because of an explosion in the neighbourhood, and been replaced by a concrete wall by the neighbour, and the 'organos' (the local needleless cactus) did not exist anymore.<sup>8</sup>



Figure 5 Music School Compound in 2012 (Becker)

The last visit to Ocotlán de Morelos was in November 2015 in the framework of a summer course on sustainable development with a focus on socio-economic aspects. The hope was to investigate the reasons for the missing maintenance, the lack of use and to see if a strategy could be developed as a first step towards support the music school in benefiting from the compound as part of a sustainability strategy. (We have been able to analyse the weaknesses and even suggest a development-structure but it was not possible to implement it.)

The appearance of the site was frustrating: the whole ground was covered with weeds, the backing wall had been rebuilt as a concrete-frame and brick wall, parts of the structure were burned, the rain-exposed wooden structure was damaged or broken due to poor wood-protection and maintenance, and the reed-cladding was broken or disappeared. Only the two adobe-buildings from 2003 were still in an acceptable condition.

The interview with the *maestra* was even more disheartening. She remarked that the foundation only paid a minimal salary for the weekly teaching and that there is no financial support, not even to buy a light bulb. She and her mother did all the maintenance in their free time although they did not even use the place, despite owning it. There was no revenue at all: renting



the space for events such as baptisms, weddings or 'quinceañeras' (girls' 15<sup>th</sup> birthday parties) was not possible as the cultural foundation was not allowed to earn money, the pupils didn't pay for the lessons as it was their intention that the classes should be free for all.

Thus, the formerly beautiful site with such high potential had become an unbearable burden and a visual insult, constantly arousing bad consciousness in the people who were meant to benefit from it.

So what went wrong?

Firstly, the project failed in point 1.3, social embeddedness, and secondly the inappropriate use of materials and building techniques required high maintenance that was impossible to achieve on the part of the user. (1.2; 2.2)

In detail:

Lack of embeddedness in community

Unarticulated sustainability strategy

Weak governance structure

We set up the project with a director of the foundation, both taken by the idea that an outdoor stage would be an appropriate spatial supplement to a music school without knowing the needs and commitment of the future user and caretaker. After being built with intense support from the families of the music-students, there was no interest, ideas, knowledge or flexibility on the part of the directors of the foundation to sustain the compound or to empower and involve the users.

The formerly well-organized foundation with an enigmatic and visionary head—the Maestro Morales—struggled after his death with his legacy, the lack of income and the decision-making structure in the foundation. With the music school, the foundation sought to support and to empower the interested parents and children in order to stimulate them to take over responsibility, but there was no structure or strategy behind. The villagers were accustomed to benefitting for free without any obligation on their part.

Lack of interdisciplinary expertise, lack of collaboration

Inappropriate construction

The brick, stone and steel parts of the construction were still in good condition.

Our pretentiousness (hubris) as architects with the opportunity to design the landscaping led to a beautiful design that failed to take into account – was not even

aware of – the required technical implementation.

We failed to build in a root barrier membrane over a gravel base under the red sand-soil layer. The reed-clad shading structure, exposed to the elements, was also inappropriate for the climate.

Implementation of high-maintenance elements, unaware that maintenance is culturally not embedded

The construction would have needed a maintenance strategy – most importantly the exposed wooden structure (it is a termite region) and the beautiful but high-maintenance reed cladding but there were no resources to ensure that.

### **Jam Manufactory for Naxií**

The Jam Manufactory is located in San Jerónimo Tecuatl, about 6 hours from Mexico City and the same distance from the village of Oaxaca.<sup>9</sup> Women of the village initiated programs for the cultivation of vegetables and fruits, the breeding of poultry, and the conservation of food, and finally founded the production cooperative 'Naxií' (Big Rock in the Mazateco language). For more than 13 years, the women fought with enormous courage and after achieving financial success with their small businesses, Naxií gained credibility in the whole community. In 2008, Graciela Garcia Reyes, the director of the cooperative, approached the DesignBuild- Studio via email, connected through the local NGO C.A.M.P.O that supports villages with sustainable, cultural and economic development and had been collaborating with the studio since 2006. She tried to convince the studio to enlarge the existing cooperative's building by adding another story. The request was rejected as the two-story house on a slope was already damaged and building a third story in a seismically active region was considered too risky. Two years later, Mrs Reyes wrote that the organization had bought a plot of land outside the village and they welcomed the studio's involvement in the effort to design and build their new expanded kitchen.



Figure 6 The two buildings of the jam manufactory 2012 (Hartig)

The project was planned and realised in 2012.

A kitchen building, an assembly building, a landscape design for the whole compound including a composting toilet was realised within the time frame of 7 weeks. All academic and project objectives were achieved: delivery on time, all students gained the expected credits, the budget was respected, and it was built with local material (the adobe bricks were made directly on the site). It is therefore comparable with the Music School.



Figure 7 Detail of the shading structure in front of the assembly hall (Hartig)

Over the following five years, visits to San Jerónimo and meetings with Mrs Reyes showed that the projects was not only used and adapted but that the cooperative was able to extend their product portfolio, inviting experts for teaching (e.g. making soap) and holding courses for a large part of the village.



Figure 8 Soap Workshop 2014 (Reyes)

Despite the fact of conflicts among the directors, a major burglary by digging a hole in the 30 cm-thick adobe wall, and no financial support apart from the income generated, the buildings and the compound are still in very good condition. The kitchen was recently fully tiled, the compound is now fenced, and people regularly come to visit it and take the construction as a model (for example, a family in the neighbourhood built their new house out of adobe).

What made the difference?

The project was initiated by the user-client who had the skill to discuss with the project team on an eye-to-eye level and could rely on good management structures. (1.2 and 1.3). The technology used was appropriate and the client / user possesses the know-how and financial resources to maintain it. (1.1, 2.2)

In detail:

User-initiation

Collaboration with a long-term monitoring NGO as a reliable partner

The women's cooperative, already working for 13 years with good results and a strong and visionary president approached the CoCoon team and for three years insisted on help to realize their plan. The NGO C.A.M.P.O. has been monitoring for years the stakeholders in community development in the villages and supported the cooperative in expanding their



production.

Implementation of traditional techniques and materials

Interdisciplinary team

The cooperative was conscious of the quality of the traditional but lost adobe technique and suggested this type of construction. The whole project was planned and implemented with an interdisciplinary team involving landscape architects and civil engineers. The slope and grades are still in good condition despite the fact of heavy and constant rainfalls.

Existing know-how, manpower and consciousness about maintenance

Strong identification with the project

The organisational structure involving the villagers allows a maintenance strategy divided between many people. The wooden components demanded some maintenance after five years and have recently been varnished.

Existing financial sustainability strategy

Existing leadership

The cooperation counts on a strong and visionary leadership with business management know-how. Although a part of the group left with most of the equipment, the remaining part was able to develop, secure new funding and produce now under the name 'Sabores Mazatecos' with new members. A design-class of the UAM (Universidad Autónoma Metropolitana) developed new labels for the products, and the products generate income to be used to maintain the compound. The project supports the local economy in processing agricultural products in times of overproduction.

## Conclusion

These two case studies show that the assessment of success of DesignBuild projects does not stop at the hand-over of keys and the beauty of the finished building. They show that even broadening the focus of the academic parameters and the planning and construction cycle is not enough. Even legal liabilities, such as those existing in European or North American societies are not applicable and insufficient as they only refer to building techniques. The medium- and long-term impact of the project, the performance of the resulting building and involvement of the clients and users has to be taken into consideration to determine the success of the project.

DesignBuild projects as academic projects,

especially those with a social impact, must carefully define the success criteria for goals and outcomes, incorporating the aspirations of the various stakeholders insofar as the process and product affect people's lives and the environment. Successes and failures then can be evaluated in relation to this carefully prepared and agreed set of intended outcomes.

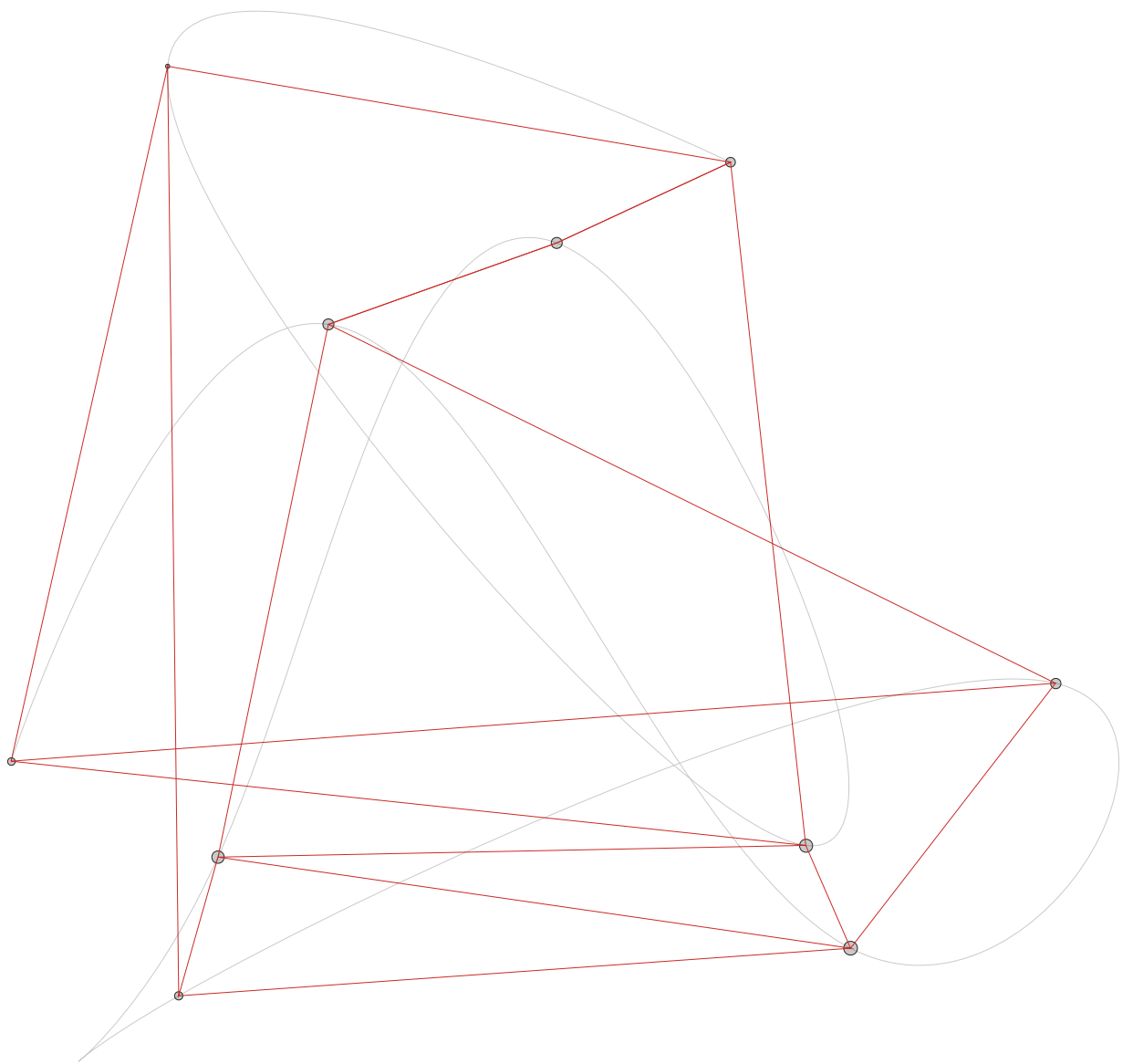
All actors and stakeholders must discuss the intended objectives in a transparent and balanced manner, in relation to the expected lifetime and beyond the architectural virtues.

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be based in higher education  
have a brief, budget and timeframe  
be built  
have students involved in the design AND construction of the project  
be of architectural, social, cultural, scientific, technical or artistic relevance'  
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## 1.3 RESPONSIBILITY



# Tools and Biases. Student Research and Outreach Methodologies in Public Interest Design Education.

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## ABSTRACT

This paper outlines the difference in research methodologies undertaken by architecture students in traditional design studio courses, as opposed to courses engaging in Public Interest Design (PID). An introduction is provided into the principles of PID, the primary characteristic of which is described by the recipients of the 2011 Latrobe Prize as work that “serves the public in some way, and that is not created for private interests alone.” There has been increasing emphasis on this mode of practice in schools of architecture, and the paper outlines the curriculum of a research-intensive public interest design studio course at Lawrence Technological University, where students develop and test their own tools for community based research and engagement.

In traditional studio contexts, students are frequently presented with projects lacking real ‘clients’, and only an abstract interpretation of potential users. This creates a level of disconnect to the project. Given that direct user input is essential to PID work, student research must move beyond typical ‘abstract’ analysis of site, program, context, etc. By analysing internal case studies exploring the comparative impact of various tools utilised by students to gather information and facilitate dialogue with community partners, this paper explores the biases inherent in some of these methods. Reflection from both the instructor and some of the approximately 110 students who have participated in this course over a ten-year period reveals moments of both success and failure. This paper underscores the importance of inclusive processes, the ethical imperative behind such research methods, and the need to select appropriate research tools to reduce bias and maximise impact.

**KEYWORDS** education, research, public interest design, engagement, community partners

## Introduction and Method

Within the field of design education, the research phase that precedes design conceptualisation is crucial to the understanding of project context (functional, spatial, and cultural), establishment of project objectives, and creation of criteria against which to measure the success of design proposals. In traditional studio contexts, such research may take

the form of internet searching, ‘data-scraping’, or detached observation and analysis. While designers gain useful information from these models, a fledgling runs the risk of biasing their findings through selection of research filter, or through inability to interpret the impact of data on the end users of design. In such cases, the negative impacts of such research bias are minimised by the fact that the student is not designing



with a client in mind, but rather testing self-generated hypotheses in response to a theoretical challenge issued by their instructor.

When educating students in the processes and principles of public interest design (PID), however, research takes on another layer of significance and nuance. By foregrounding user engagement at multiple phases of the design process, the PID studio context augments the need for design data with an obligation to gather information that is more experiential, anecdotal and narrative in nature. The value of such ‘imbedded information’ within a community is significant, as it allows the designer to collaboratively identify problems, and embark on a journey to unpack the social, political, historical, and economic infrastructure that perpetuate a problem. Furthermore, participatory design practices integrate the contributions of a community partner in an iterative process that yields results that have greater impact due to the ownership of process and result by the end users. Leading PID practitioners have embraced a variety of innovative tools that draw out valuable community narratives unrecognised through cold data gathering alone. But which tools are appropriate for this task, and how does one overcome biases built into any given tool?

This paper will introduce the broad categories of such research models as the starting point for community understanding, engagement, and partnership. In addition, it will outline the curriculum of a research-intensive public interest design studio course at a North American university, where students develop and test their own tools for community based research and engagement. Here, students learn to recognise the biases inherent in various methodologies, identify strategies to gather the broadest possible set of information, and facilitate participatory design actions with self-identified community partners. Research at the heart of this paper includes review of scholarly and professional publications, and discussion of case studies. Analysis of internal case studies explore the comparative impact of various tools utilised to gather information and facilitate dialogue with community partners. These case studies will be subject to reflection from both the instructor, and some of the approximately 110 students who have participated in this course over a ten-year period.

## Public Interest Design

It is useful to provide a brief discussion of Public Interest Design (PID). PID encompasses user-based, activist, and participatory design goals and techniques, which Elizabeth Sanders and Pieter Stappers trace to the 1970s. “The user-centered design approach (i.e. ‘user as subject’) has been primarily a US-driven phenomenon. Increasingly, since the 1970s, people have been given more influence and room for initiative in roles where they provide expertise and participate in the informing, ideating, and conceptualising activities in the early design phases. The participatory approach (i.e. ‘user as partner’) has been led by Northern Europeans. The two approaches are now beginning to influence one another.”<sup>1</sup>

In the United States, while a number of practices have existed that focus on design work for the benefit of those outside of the traditional private client, it was not until the 2011 Latrobe Prize Research report produced by Roberta Feldman et al, that a collective definition of ‘public interest design’ was coined. “Public interest design,” they state, “is a term that includes a general category of work that is known by many names including community design, social design, humanitarian design, and pro bono. The primary characteristic is that the work serves the public in some way, and that is not created for private interests alone. For the purpose of the survey, Public Interest Design is defined as putting creative abilities to use to improve quality of life in communities.”<sup>2</sup>

PID, and other participatory approaches, “reflect design as a social process,” notes Rachel Luck, “illustrating that the sphere of the design activity extends beyond the designer. ...Hence the boundary between ‘designer’ and ‘user’ becomes blurred.”<sup>3</sup> More so than traditional ‘private’ practice, PID work must be inclusive of a broader set of constituencies beyond just the paying client. It is therefore incumbent upon the PID practitioner to be more expansive in their research methods, engage in broad outreach, and flatten the hierarchy of design decision-making. “Our research is about gaining people’s perspectives,” states the IDEO design office, “not about offering advice, opinions, or corrections. Participants should always feel their perspectives are valid, and not be swayed by any sense of deference that we are the experts.”<sup>4</sup>

Increasingly, schools of architecture are adding coursework that help prepare students for work in

the public sphere. Research from the Association of Collegiate Schools of Architecture found that in 2014, “over 200 active organisations”<sup>5</sup> exist in United States universities dedicated to PID / Community Design education and engagement. This number has increased from seventy in 2000, and likely has continued to grow since. The balance of this paper will discuss case studies and experience drawn from one such academic program.

### **The Activist Architecture and Design Studio**

The Activist Architecture and Design (AAD) Studio was originally conceived in 2007 as an elective section of a design course intended for upper-division architecture, interior design, and urban design students, at Lawrence Technological University (LTU), located in Southfield, Michigan. As of fall 2015, this studio has migrated into the lower-division coursework in the Master of Architecture program, as a section of Integrated Design Five, a course with both studio and lab components focused upon the relationship between architecture and the public sphere. In this course, students apply a model of advocacy design in the face of institutionalised contexts of neglect and economic disadvantage.<sup>6</sup>

The first project phase is called ‘Picture Problems’, and focuses upon situational awareness. Students are required to identify relevant problems facing a community in a specific area, clearly demonstrating its magnitude and impact, and support their findings with data and other credible information. They are to identify and fully define all “Constituencies” (an individual, community or organisation) affected by this problem, and to consider the larger social, environmental, economic “Ecosystem” that perpetuates the problem.

Using the results of the ‘Picture the Problem’ assignment, each student is then required to develop a design solution that addresses the needs that they have identified. Students develop the scope, program, and objectives of the project in collaboration with a community partner, who in many cases acts either as a ‘client’ or as a conduit to affected constituencies. In this phase, called ‘Picture Potential’, the critical step is the establishment of a working relationship with a community partner. In most cases, students make this connection directly, but in some occurrences, the instructor shares contacts he has within the

community. Students and community partners enter into a written agreement that outlines the project description, the student’s primary responsibilities, and any deliverables the student shall complete by the end of the semester. Use of this agreement provides a level of closure to the semester, but allows for the student and agent to maintain a working relationship after the semester.

For the balance of the semester, students develop design responses in conjunction with their community partner. Students are required to present a visual and written account of their interactions with all stakeholders with whom they are working, and maintain a record of this dialogue throughout the design process. The dialogue and bonding between student and community partner is paramount in this course. “Students learn to value communication with nonarchitects as a critical architectural skill and see the knowledge of real people as a valuable part of the architectural process,” notes Nadia Anderson.”<sup>7</sup>

### **Student Research and New Tools**

All design projects require a degree of research, be it about site, context, program, climate, etc., to establish a solid foundation for concept and proposal development. Within traditional studio contexts, students are frequently presented with projects lacking real ‘clients’, and only an abstract interpretation of potential users. This creates a level of disconnect to the project that feeds into the stereotypical characterisation of architect as aloof egoist, which must be overcome in PID work. “Rather than cultivating an ethos of service and the skills to serve effectively,” notes Carey Clouse and Zachary Lamb, “many architecture programs simply reinforce a culture of design hero worship and egotism that can undermine community relationships.”<sup>8</sup>

This disconnect is exacerbated by the contemporary dependence upon the internet for student research. A 2010 Pew Research Center study noted that nearly 100% of graduate and undergraduate students access the internet<sup>9</sup>, and it is the observance of this instructor that students rely almost exclusively on web-based research to initiate their work – often to their detriment. This is not to say that web-based research has no value: many students in the AAD studio are able, with guidance, to cultivate good understandings of demographics, economics, and history through use

of curated sources of data from governmental and foundation resources. The challenge for such students is to compliment this quantitative 'data scraping' with qualitative information that can only be gained from 'on the ground' experience. "When initiating public interest design work," note Lisa Abendroth and Bryan Bell, "we need firsthand understanding of the project's defining social and cultural contexts. These factors create a framework for conducting a practice based in civic engagement and informed by social, economic, and environmental issues – human issues – which cannot be easily known by analysing the needs of a project or people from afar."<sup>10</sup>

Even when attempting to gather qualitative data, students often attempt to leverage online means of communication and surveying. LTU student Katie Piasecki utilised the Facebook page for Friends of the I-275 Pathway to gather thoughts from trail users about conditions and possible improvements. While this did allow her an introduction to a particular constituency, it skewed her understanding. This limited resource did not adequately give her access to the needs of others (municipal staff, transportation officials, local business owners) who would also have a stake in the maintenance and development of this amenity. This 'selection bias' required her to find other means to inclusively gather information.

Similar use of online survey platforms (Facebook, Survey Monkey, etc.) by students prove to be limited in success for a number of reasons, as outlined by Umut Toker: "For example, relying on instruments that use digital media may not be a good idea in a community that is known to be relatively independent of computers. Complex instruments that work well with a community comprised predominantly of professionals could fail with a younger audience."<sup>11</sup> Further, he notes, "In the early days of the internet, a common criticism was that it would exclude younger and older community members. As Internet access and use became widespread, however, the challenge has shifted to attracting attention and making the notice stand out among other electronic advertising"<sup>12</sup> A combination of electronic outreach and printed media can counter these limitations.

In an ideal situation, students and PID practitioners are able to develop research and outreach strategies that combine credible data with parallel qualitative research, which Linda Groat and David Wang state

"involves gaining an understanding of how people in real-world situations 'make sense' of their environment and themselves, and achieves this by means of a variety of tactics."<sup>13</sup> There are numerous research methods available. All of them are good, but one needs to be aware of biases, and recognise that some work in certain contexts better than others do.

### **"Tell Me Your Story"**

Larger-scale research techniques and 'data-scrapes' are effective for gathering generalised information on a place or demographic. However, there is a danger in 'over-generalisation' in the collection of such data, and that resultant design proposals may not address user needs adequately. "Referenda, public opinion surveys, and focus groups do reasonably well on acceptance criteria but not on process criteria," states Gene Rowe and Lynn Frewer. "From this, we suggest that although these methods might gain a fair amount of credibility with the public, the quality of the decisions that arise from their implementation may not be high."<sup>14</sup> In such situations, particularly with a smaller user pool, one-on-one interviews prove more successful.

When properly designed, one-on-one interviews reveal a deeper level of detail on user needs, albeit anecdotally. It is important to create consistency of questioning to achieve valid results, and to design questions that will not prompt pre-determined responses. Luck describes the value of such interviews: "This approach generated rich information about respondents' personal perceptions of their experience of buildings and their suggestions for improvements to the built environment. Interviewing people individually had the advantage that their ideas were personal and not affected by group pressures and influences."<sup>15</sup> LTU student Julia Jovanovic effectively used focused interviews in her work on the Ten Friends Diner renovation.

Ten Friends is a non-profit organisation whose staff consists of individuals who are returning to the workforce after treatment in the Canadian Mental Health system. In preparing to develop design proposals, Jovanovic conducted interviews with Ten Friends staff and leadership, to understand their needs and concerns about their workspace. To provide a scientific basis for her investigations, she researched case studies on evidence-based design, looking for ideas to enhance the physical and mental well-being of users.

Following a principle of IDEO, who believes “(you) can learn so much about a person’s mindset, behaviour, and lifestyle by talking with them where they live or work,”<sup>16</sup> Jovanovic held design reviews at the Ten Friends workspace. This allowed her to observe the working conditions, and the staffers’ reactions to it. Particularly eye opening was feedback from staff who rejected certain design proposals if they were likely to have a negative impact upon their particular mental health condition.<sup>17</sup> This constitutes what Groat and Wang call a ‘member check’: “checking the data and interpretations with the respondents and groups from whom the data was solicited, a process that (Egon) Guba claims ‘goes to the heart of the credibility criterion’.”<sup>18</sup>

The inappropriateness of rejected ideas came from a generalisation of the user needs, and a reliance upon ‘expert’ knowledge gained through literature review without the frames of specific user conditions. Willingness to re-assess the knowledge hierarchy of designer, researcher, and user is necessary for participatory thinking, which Sanders and Stappers note: “flies in the face of the ‘expert’ mindset that is so prevalent in business today.”<sup>19</sup> They go on to note “In co-design, on the other hand, the roles get mixed up: the person who will eventually be served through the design process is given the position of *‘expert of his/her experience’* (*emphasis added*), and plays a large role in knowledge development, idea generation and concept development.”<sup>20</sup>

In co-generating and reviewing design proposals with the Ten Friends staff, Jovanovic was able to guide a process that resulted in a workspace renovation where “positive changes were noticed in almost all of the thirty-plus employees of the diner, whose attitude and general well-being significantly improved. Fewer employees missed work or reported heightened anxiety or confusion.”<sup>21</sup> Furthermore, as Sandra Winter et al note, “This equitable approach allows community residents to learn and practice advocacy, leadership and technology-related skills—all of which may increase self-efficacy and be transferable to other contexts.”<sup>22</sup> The skills and confidence gained by the Ten Friends staff during the diner renovation inspired them to take on the planning and implementation of a community garden opened the following year.

### ‘Democratic’ Surveys

Where broader collection of qualitative data is required, methods such as broadly distributed surveys and questionnaires can prove to be useful. Groat and Wang note that “(t)he great advantage of the survey questionnaires is that they enable the researcher to cover an extensive amount of information – from demographic characteristic, to behavioral habits, to opinions or attitudes on a variety of topics – across a large number of people in a limited amount of time.”<sup>23</sup> However, these tools also come with certain limitations. For example, the creator of the survey runs the risk of biasing the information collected through selection of a distribution list. While this is not a concern when the targeted audience is very concentrated (a church, school, or focus group), there often exists a need to include feedback from a broader scope of impacted constituencies.

To address this, community designers and organisers have developed public ways of conducting surveys. These techniques utilise an anonymous, democratic process of feedback where the big voices of formal meetings do not dominate. A prime example is Candy Chang’s “I Wish this Was” project in New Orleans, Louisiana. Recognising “the limited dynamics of community meetings where the loudest people ruled”<sup>24</sup>, Chang utilised a set of vinyl stickers upon which residents could express their dreams and hopes for the reuse of abandoned structures in their neighbourhood. By introducing a methodology that was inclusive to more introverted community members, Chang gathered a more representative set of responses than could be gained by a selective survey. In addition, the public nature of the installation encouraged passers-by to add their own feedback, creating an informal conversation about place, character, and need.

Working in her hometown of Clio, Michigan, LTU student Brianna Campbell utilised a similar method of participatory surveying. Campbell discovered that there was a 32% rate of business vacancy in the downtown buildings, which was negatively affecting the community. Hindering redevelopment, she observed, was “the disconnection between the local Clio government, the business owners and the community. There is little communication between them, little advertising from the businesses and to get signage for the business owners is a big struggle with



the ordinances.” She also notes that “there is no ‘hook’ to bring people into downtown to shop and support the local businesses.”<sup>25</sup>

Campbell identified an opportunity for the locals to guide redevelopment. Inspired by Seattle Storefronts, a project that gives local artists space to highlight their work in abandoned storefronts, Campbell created a pop-up event space in an available storefront owned by Clio resident Brad Anthony in conjunction with the annual ‘Candlewalk’, a Christmas festival in the downtown. Her rationale was that this was one opportunity where “everyone was in downtown at one time.”<sup>26</sup> “I did an art installation in the front of Brad’s building with a red ribbon chain wall across the entire front window with a sign in the window that said ‘What does Clio want for Christmas?’ The people would fill out a slip that says ‘\_\_\_\_ would bring me to downtown Clio’, or ‘I would like to see \_\_\_\_ in downtown’. Then they would take the strip and hook it on the ribbon wall. People would be able to interact with the installation from inside and people would be able to see the responses getting hooked on the chain from outside.” The number of participants surpassed even Campbell’s expectations. “The event happened on Friday Dec. 4<sup>th</sup>. There was a great turnout and I got a total of 129 responses; I was expecting 50.”<sup>27</sup>



Figure 1. ‘What Does Clio want for Christmas?’ installation (Brianna Campbell)

Campbell simplified the questions asked to ones addressing place-specific preferences, rather than complex planning issues. She avoided a common drawback to surveys, where, as Rowe and Frewer note, “participants in referenda, public opinion surveys, and focus groups have no structured access to resources to

enable them to make good decisions, and as such their output may reflect biases and misunderstandings that have no opportunity for resolution.”<sup>28</sup> She submitted the resultant information, compiled in a report, to the Clio Downtown Development Authority, to provide public input to future city development.

### Tactile / “Play” Tools

When attempting to engage a community in the process of co-design, it is often beneficial to bring the opportunity for design workshops into the public realm, rather than in a controlled office or meeting room context. There are multiple benefits to such an approach. First, it allows members of the community the comfort of participation in their own space. In addition, it allows the designer the opportunity to observe not just the context, but (as referenced in the discussion of the Ten Friends Diner), the community member’s disposition toward that context.

This type of fieldwork often is physically manifested in the creation and installation of a booth, table, kiosk, or mobile station that allows for the collection and distribution of information, or even –in some cases - the co-creation of design ideas. In essence, the design team creates an ‘event space’ that democratises design participation. Toker refers to this as a ‘planned street presence’, and notes that it “works best when it is organised in conjunction with a workshop or a meeting in the larger scheme of a community design project.”<sup>29</sup>

A successful example is the Waterfront on Wheels, created to facilitate user participation in the redevelopment of the Lower East Side waterfront in New York. “It’s a mobile, physical model of the site hooked to a bike trailer that we use as an interactive planning tool,” says Dylan House of the Hester Street Collaborative. “We bike the model around the neighbourhood to meet people where they are, whether that’s a school or a community meeting or in the park. We can engage young people with a model-making activity that envisions alternative futures for the park or we can use it in a more formal workshop setting with adults in order to demystify the planning process.”<sup>30</sup>

Planned street presences like the Waterfront on Wheels help address certain biases built into design processes. First, the hands-on engagement of model making removes the use of private language and jargon typically heard in schools and office of design. Secondly, the element of ‘play’ involved is particularly



helpful in engaging youth and children, demographics that Mark Matel notes, “normally don’t attend community meetings.”<sup>31</sup> In fact, Wendy Sarkissian and Dianna Hurford lament that in their experience “government engagement manuals were ignoring children and young people as groups to involve in participatory processes related to planning and design and probably other aspects of civic life.”<sup>32</sup>

LTU students Brittany Murray and McKenna Steltzner utilised a similar technique in their work with the Crim Fitness Foundation and FoodCorps in Flint, Michigan. These organisations worked with Flint Community Schools, focusing on garden education, community engagement, afterschool programs, nutrition education, health care services, sports & physical activity, and literacy. Murray and Steltzner led the design of expanded learning gardens / classroom spaces at Doyle/ Ryder and Neithercut Elementary Schools. They note, “One of the most important aspects of the proposed garden spaces was the incorporation of children and their ideas. It was extremely important to the Crim and to the FoodCorps members that the children take ownership of the space.

“Everyone agreed that the students are going to be the main users of the garden; their input is the key to a functional garden design. We created a workshop to begin designing the gardens with the students. We attended a 5th grade class at Doyle/Ryder, a Flint Community School that needed garden expansion. Students were excited to have a new garden since their garden had not been planted in two years. To express their ideas, students were divided into three groups to build a model of their dream garden. Ideas such as secret areas, roses, a pond, daisies, and a water catchment system were a few of the many ideas we were able to gather from the children.”<sup>33</sup>

In conducting the workshop with children, Murray and Steltzner needed to step out of the biases that inform repeated work experience with peers and professors. They observed that the children were eager to engage the model-making process, and contributed ideas without the self-consciousness adults may have in the presence of trained designers. However, working with children – rather than adults – also necessitated more guidance from the designers to maintain focus. Murray notes that she “came away feeling that we would have been able to get more direction and imaginative design ideas if we had directed the

discussion and design process rather than allowing the students a ‘free for all’.”<sup>34</sup>



Figure 2. Doyle / Ryder Elementary School workshop  
(Brittany Murray and McKenna Steltzner)

### Bricolage

Individual tools for research and outreach offer distinct advantages and drawbacks, and community designers and design students often find that selection bias (as noted in earlier case studies) is often one of the obstacles to overcome. “Talking with one community member reveals what he or she desires, but is not necessarily representative of everyone’s thoughts,” notes Eric Benson. “In any good study, getting a representative sample is vital. Using only one or two sources of feedback, although important on their own, will create assumptions, which will skew project successes. For the social designer, asking many people and listening with empathy is the key to understanding.”<sup>35</sup> Therefore, it is often necessary to apply several tools to achieve adequate representation. This application of multiple tools is a bricolage, or “a pieced-together, close-knit set of practices that provide solutions to a problem in a concrete situation.”<sup>36</sup>

In addressing the daunting task of collecting meaningful information from the scattered and diverse constituencies in Detroit, Michigan, the team behind the Detroit Works Project Long Term Planning (DWPLTP) employed such a bricolage. “Tactics varied from music videos and an online gaming platform, which successfully engaged a younger audience, to a road show that exhibited the plan at community centers and a team that attended existing neighborhood meetings to share information about DWPLTP,” states Ceara O’Leary. “Another engagement

strategy was a mobile information station, the Roaming Table, designed to be a hub for DWPLTP knowledge sharing. The Roaming Table was often deployed at neighbourhood events, bus stops, grocery stores, and many other sites to create a convenient way for residents to engage with the DWPLTP process.”<sup>36</sup> This combination of engagement techniques proved highly successful in reaching a high number of Detroiters. The online gaming platform (Community PlanIt / Detroit 24/7) alone engaged 1,033 participants, with 74% below the age of 35, and with some of the most active ‘players’ over the age of 50. Overall, Community PlanIt garnered from contributors “over 8400 comments about their experience with the city as it is now and where they think it should go in the future.”<sup>38</sup>

The number of constituencies, and sensitive politics encountered by LTU students Daniel Adamczyk and Jillian McFadden required a bricolage approach to information gathering in their classwork. They identified a number of groups within Flint, Michigan, that had interest in a significant six-block site straddling Flint’s University Avenue, including The Carriage Town Historic Neighborhood Association, Flint Public Art Project, Kettering University, The University Avenue Corridor Coalition, as well as the local residents living within the proposed site. They also discovered through their initial research that these groups had differing goals for this part of the city, and that relationships between them were not always cooperative. Bill Lennertz and Aarin Lutzenhisser stress, “A proper stakeholder analysis will uncover a project’s potential blockers and identify the issues that matter to each group as well. ...It is therefore critical to locate and engage influential individuals in the community – especially those not immediately apparent.”<sup>39</sup>

Adamczyk and McFadden sought success “by allowing each member of the community to have equal weight throughout the planning process. Our focus was to take on the role of mediator between the multiple constituencies, and through conversations and multiple iterations, develop a proposal that reveals the common ground between them.”<sup>40</sup> Adamczyk and McFadden recognized what Mindy Fullilove has advanced, that “citizens must start with a common understanding of the problems in order to move to the correct solution.”<sup>41</sup>

Their first interactive activities were meetings

and ‘mapping sessions’ with Flint city planners and the Carriage Town neighborhood association. Using aerial maps and street photos, they were able to collect perspectives on existing conditions and proposals for new development. However, it became apparent that these organized meetings did not accommodate all parties with a stake in the project site. Barry Checkoway notes that such meetings and workshops “are commonly held during weekday working hours in locations that are ‘formidable’ to the public (e.g., government buildings), which may disadvantage low-income and minority citizens and have a negative impact on the representativeness of those attending.”<sup>42</sup> Adamczyk and McFadden needed a method to include local residents more equitably into the process.

Their response was to create ‘The Avenue’: a model / board game that was “given to different members of the community to programmatically layout city blocks through a simple massing exercise. It was designed as a tool for communication between community organisations who are no longer on speaking terms or have never met before.”<sup>43</sup> Users place colour-keyed blocks (representing different programmatic functions) on the model to create a proposal for land use in the project site. Creation of a communication tool is in keeping with the thoughts of Nishat Awan et al. who note, “Some of the most inventive examples of spatial agency focus on the design of these tools, seeing them as the prime means to unlock the potential of a given situation”.<sup>44</sup>



Figure 3. Mapping session with ‘The Avenue’ model in foreground (Daniel Adamczyk and Jillian McFadden)

Once a participant created a physical document of their proposal, they were encouraged to post a photograph on an established Facebook page, allowing others to comment and engage in dialogue about alternatives. “The end result,” Adamczyk and

McFadden write, “was a few areas of incremental development that all organisations should be able to agree on. These proposed areas can help inform what should be developed around them, in the more unrefined areas of the site.”<sup>45</sup>

Adamczyk and McFadden assembled and compared the information gathered through their bricolage methodology. They produced a set of diagrams outlining areas of planning consensus that could act as a base of continued development. They submitted their results to a subsequent section of the course, for continued work with the Flint constituencies. The willingness to include multiple research and engagement tools underscored the students’ acceptance that as Luck notes “(the) democratic principle underpinning participatory design is demonstrated through the involvement of different users during design discussions and through their potential equal contribution to the design outcomes”<sup>46</sup>

## Conclusions

Observing the students’ interactions, successes and failures with certain research and outreach tools leads to a number of conclusions. First, it is imperative that in the PID realm, all processes, from research to design, be as inclusive as possible. It is particularly important that students realise that public design interventions affect a variety of constituencies, and their voices – and knowledge – need to be heard. Roberta Feldman reflects: “The participatory design methods we use are rooted in the conviction that both are clients and we – as architects, planners, graphic designers, and other design professionals – have the necessary expertise to guide effective and socially just design decisions. ... Our clients have the most and best knowledge about their own situations – the problems with their current circumstances, and their future needs and desires. We have knowledge about alternative design solutions, many of which may be unfamiliar to our client.”<sup>47</sup> One must view PID as a partnership of varied talents, not a ‘top down’ process. This ‘partnership’ indoctrinates students in the art of listening, as well as the language of inclusion.

Second, there is a strong ethical imperative not only behind the value of the finished work, but the research process itself. IDEO requires that its staffers realise that “real people are behind the data we’re collecting; we acknowledge their participation in appropriate

ways.”<sup>48</sup> Further, “Research should never feel covert or manipulative. We want to help participants make informed choices about what they share with us. We must tell them as early as possible—to the best of our knowledge—what the research is for, and how their information will be used, shared, and protected by IDEO.”<sup>49</sup> One LTU student learned this lesson the hard way by unthinkingly sharing critical comments by a non-profit community partner with that partner’s direct supervisor, creating tension in the group, and compromising the partner’s confidence in the process.

Lastly, students who aspire to work in the field of PID need guidance to recognise the appropriate selection of tools and processes to reduce bias and maximise impact for those who will most benefit. In the words of Sergio Palleroni, “But most important, we can also teach them to become citizens, to become collaborators, so that when they leave academia they have established the capacity to pool resources and have come to understand that cooperation can be a powerful tool toward making effective change. Through this collaborative exchange, they have created new models for their own discipline.”<sup>50</sup> These tools are not exclusive to the practice of PID, but will serve future practitioners well regardless of their career path.

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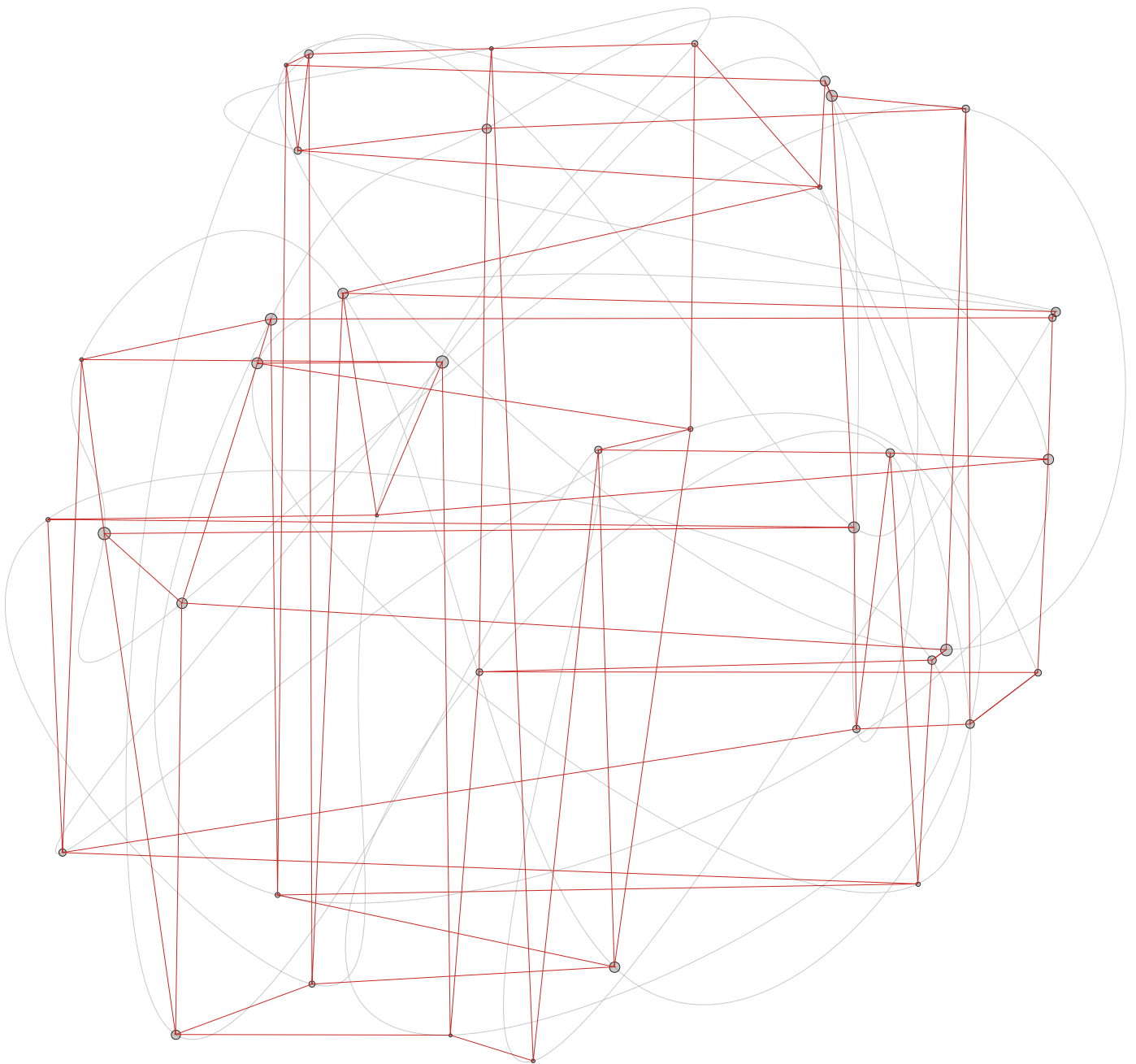
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## 1.4 PEDAGOGY AND PRACTICE



# “Where does Facebook live?” Mapping identities in Newcastle upon Tyne, England.

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## ABSTRACT

For the past eight years my colleagues and I have been working with diverse groups of young people, to understand their sense of place and use(s) of the city. Between September 2015 and November 2016 we organised and facilitated a number of workshops utilising participatory mapping techniques. The objective of the workshops was to develop our understanding of how the participants identified with their immediate physical context and with the wider city. This paper documents phase one of the ‘Mapping the City’ project. The paper also describes how participatory mapping techniques have informed my own architectural pedagogy and the practices of some of the students I have tutored.

**KEYWORDS** right to the city, participatory mapping, young people, architectural pedagogy

## Introduction

Young people are often dictated to, overlooked, or deliberately omitted from the processes leading to commissioning, designing, procuring and managing buildings and public spaces. For the past eight years my colleagues and I have been working with groups of young people, trying to understand their place in the city, and to represent and disseminate this through blog posts on ‘the accidental youth club’, in articles, academic papers and exhibitions (including ‘PlayToon’, 2012; ‘Urban Fictions’ and ‘Traversive’, 2014; ‘encounter’ and ‘Mapping the City II’ 2016). The ‘Mapping the City’ project was developed with Juice, a multi-art form organisation made by, with and for children and young people.

Between September 2015 and November 2016 we organised and facilitated a number of workshops

utilising participatory mapping techniques with groups of: school pupils studying art or geography; clients at a city centre youth club run by the YMCA; and young people using Newcastle City Library during the October 2016 half-term holiday. The workshop participants were aged between 10 and 18. The objective of the workshops was to develop our understanding of how the participants identified with their immediate physical context and with the wider city. The majority involved with the schools’ and library’s workshops were at the younger end of that age spectrum. The participants at the youth club were at the older end of the age range and mostly émigrés or first and second generation children of naturalised immigrants.

### A map is a manifestation of authority<sup>2</sup>

Cartographer and map historian, John Harley, (1989; 2002) challenged the orthodox belief that maps represent landscapes objectively. He drew attention to the subjective choices made by cartographers which reproduce their ideologies. Harley's work has been criticised (see Crampton, 2003) for not challenging the ontological idea that the map-artefact nevertheless represents a discernible truth.

Prof. John Pickles (2004, p. 145) proposes, "[m]aps no longer are seen to simply *represent* territory, but are understood as *producing* it; in important ways 'maps *precede* territory', they inscribe boundaries and construct objects that in turn become our realities." [Emphasis added].

We introduced the workshop participants to the concept of maps as social, political and economic constructs by questioning what is included on an 'official' map.<sup>3</sup> The participants quickly grasped their lives were not being represented on a map of cultural landmarks produced for tourists. The authority of the map-artefact, implied by the printed document in the classroom, was further, and dramatically, challenged (usually to gasps of shocked delight) by stabbing a pencil through the map to indicate a mysterious, secret location.

### Participatory Mapping

Considering map-making as a process can be revealing of the time, culture, and politics in which they were made. They speak for the individual cartographer, as it is the map-maker who ultimately decides what to include and, equally significantly, what to exclude. Mapping has become a staple technique for ethnographers seeking to reveal intangible heritage because mapping is accessible anywhere. We chose to use felt tip pens and cartridge paper, but it can be even more low-tech, making use of any materials to hand, even just scratching in the earth.

As academics working across the disciplines of architecture and geography, collaborating with a youth organisation concerned with education and career development for young people in the arts and creative industries sectors, our objective for this work was to explore the subjective, 'lived' experiences of young people across the city (and the north east region<sup>4</sup>). We were neither concerned to achieve a representative

sample nor to repeat the same exercises in a controlled way across different workshops. Accordingly, participants were self-selecting, or selected by the schools around timetabling constraints, and the findings were not analysed against predetermined metrics.

Our improvisatory and reactive approach to the research enabled us to learn from, and respond to, adaptations and innovations by the participants themselves and to incorporate these in subsequent workshops. One exercise, for example, was developed by three sixth formers in a geography class at Berwick Academy. Taking as their starting point the artist Grayson Perry's "Map of Nowhere",<sup>5</sup> a self-portrait inspired by the Hereford "Mappa Mundi", the exercise begins with tracing an outline around a prone member of the group and uses the body as a metaphor for mapping young people's social and temporal relationships (fig. 1). It has proven popular with more boisterous classes of younger pupils. The apparently anarchic nature of some of the exercises undertaken being a part of the process of investigation; this aspect is considered below in relation to Bjorn Sletto's "Theatre for the Performance of Identity".



Figure 1. "Mappa Mundi" workshop at Benfield School (authors' photograph. Consent received from the school and the participants for use of the photograph in relation to this project.)

### Theatre for the Performance of Identity

Rob Kitchin and Martin Dodge propose “maps are constantly in a state of becoming” (2007, p. 335), that is they acquire their ‘map-ness’ only through their enactment to solve relational problems: Where is x? How do I get to y? How far is z? (Kitchin et al., 2013). The process of map-making is performative and, in a group context, prompts in the participants the sharing and contesting of personal and collective memories of places, community narratives and traditions (fig. 2). Sletto states, “[m]apping workshops become theatres for the performances of identities, the reading and interpretation of histories, and the production of material and imaginary landscapes that participants consider [to be] ‘theirs.’” (2009: p. 443). If we shift our focus from the product to the process of production then, in seeking to understand a group’s or individual’s connections with place, participant observation becomes as important as analysis of the maps. It follows that workshops should be held in the participants’ own environment.

### Developing the workshops

In September 2015 we piloted the “Mapping the City” project during a charrette week in the Art Department of the Newcastle Royal Grammar School (an academically-selective, fee-paying school near the city centre). A number of different exercises were trialled with pupils across the age range. These were organised over five thematic days corresponding to: the history of maps; the power and politics of maps; soundscapes; psychogeography; and personal geographies. The mappings produced over this week ranged from bamboo ‘stick maps’, inspired by Polynesian fishermen’s maps of currents and islands - made of reeds and shells each is unique and beautiful but comprehensible only to the fisherman who made it - to electronic sound recordings of the structure and spaces of the school. From the pilot, a number of core exercises emerged as being applicable to different contexts, although these continued to mutate and develop during the project:

Using, variously, orthographic, transverse Mercator projection maps, or a publically-available infographic map,<sup>3</sup> the participants were asked to use (imitation) gold leaf or metallic Sharpie marker pens to highlight the places that were important to them and then to redact places that were unimportant or that they didn’t

like (either with a different marker pen or by physically cutting it out of the map). Paradoxically, the gold leaf both draws attention to the participant’s important place but also hides it. An accidental comparison between these little maps, augmented by gold leaf, and religious icons was made explicit when the redacted maps were exhibited at the Holy Biscuit gallery, housed in a former Methodist church. The redacted and perforated maps create each individual’s ground-figure plan of the city. Collectively they begin to define territories of urban attractors and repulsions for the young people.

On a blank sheet of A3 cartridge paper, we asked participants to draw “My World”. For many this was interpreted as their journey to school and to regular sport, leisure and social activities, as well as friends’ and family members’ houses. In the pilot project, the journeys were drawn on acetate, rather than paper, over an orthographic map. The mappings made on cartridge paper, without tracing, tend to have a richer iconography. Journeys to school reveal labyrinthine connections of friends, extended families, gathering places (like convenience stores) and streets which are instinctively avoided. We also asked some participants to draw their schools. Drawings of schools documented oral history and folk law, spatial ownership and spatial grievances.



Figure 2. “Personal Geographies” workshop at Newcastle Royal Grammar School (author’s photograph. Consent received from the school and the participants for use of the photograph in relation to this project.)

## Methodology

The workshops generated a diverse, extensive and rich body of mappings. To analyse them we followed the method described by Liz Taylor (2009) and Tine Bénéker et al. (2010: p. 128) in adapting the work of anthropologists John Collier Jr. and Malcolm Collier<sup>6</sup> from their photo-essay and elicitation projects. The approach starts by taking an overview of the full set of drawings. We noted our general impressions identifying themes, before proceeding to analyse each individual image.

Four themes stood out to us, which provided the broad categories for classification and analysis.<sup>7</sup> They were #1. Education; unsurprisingly, since most of the workshops had occurred in a school setting and school is the context for so much of the participants' weeks; #2. Fantasy; which we defined broadly as the digital world intermingling with the physical and also the interchangeability of logos and physical locations; #3. Friends & Family; it is a consistent feature of all of the mapping exercises we have undertaken with different groups of young people over the preceding eight years that their mappings often are populated with friends and enemies – usually identifiable by nicknames or characteristic clothing.<sup>8</sup> The mappings generated by these workshops were no different, with family members (especially 'nanas', 'grandmas and grandads') and pets (as well as some other, less domestic, animals) also represented. This was anticipated of the "Mappa Mundi" portraits, but was also a prominent feature in both "My World" and "Journey" mappings; #4. Journeys; children often have little agency in the choice of journeys which they make with parents and guardians, whether to the supermarket, a family holiday or even international migration, so these can be perceived as the adults' journeys and the child's experiences are secondary or overlooked. The workshops, with young people aged between 10 and 18, are a record of increasing independence and their expanding territory away from the family and home. This acknowledges the importance of journeys which young people make, at whatever scale, which can often otherwise be hidden.

Following the initial overview, we collected all of the mappings which showed instances of the four themes identified. In the following sections, we develop these themes in greater detail and make observations and comparisons across the workshops.

## #1. Education

### *Initiation, folklore and secret knowledge*

Berwick upon Tweed is the northernmost town in England, located three miles from the Scottish border and sixty miles along the A1 to the north of Newcastle upon Tyne. The town occupies both sides of the steep banks of the River Tweed linked by two road bridges and one rail bridge. Berwick Academy is a collection of two and three storey schools buildings, dating back to the 1950s, terraced on its sloping site. The carpark and main entrance are at the lowest point and the playing field at the top of the site. Over the course of one day, we held workshops with geography students in years 10 (aged 14-15), 12 (aged 16-17) and 13 (aged 17-18). We provided orthographic maps of the school and the surrounding area which the students annotated. Particular classrooms where they sat, their favourite or least favourite subjects or where they spent lunchtime were highlighted; the Astroturf field, not indicated on the maps we had provided, was added to every one; and the notorious 'back yard' fire assembly point, labelled the "year 8 graveyard" by one year 13 participant, attracted commentary from a majority of participants.

Some year 10s spent their breaks in the "back yard" but for others it was regarded a no-go zone to be avoided. The "hard kids" use the canteen which is a "bad place" and where the food, including "shan paninis",<sup>9</sup> should be avoided at all costs. However, for one year 10 participant at least, the canteen was their favourite place. Their mapping annotates the 'back yard' with "milkshaking, fights and gossip" and warns of "the slide game: you'll be ambushed". The year 13 maps also showed "milkshaking"; where the topography of the site creates a narrow pass and, like a parody of the Battle of Thermopylae, cartons of milkshake are rained down on the unsuspecting and unfortunate on their first or last day of term. As the self-appointed keepers of the school's alternative traditions, the year 13 maps also documented the graffiti 'tags' of the otherwise long-forgotten "Berwick Sken (sic) Crew".

### *Authority, rules and transgression*

The Newcastle Royal Grammar School comprises of three, two-storey, linear blocks arranged around sports playing fields. The oldest of the blocks, where the art department is currently located, also houses



an assembly hall with parquet floor, wooden pews, pipe organ and first floor balcony-corridor. The most recently completed block contains the school's indoors sports facilities including a swimming pool. The junior school is in the third block facing the sports building across the playing field and also houses the dining hall. The geometry of the site – three linear blocks arranged around rectangular sports fields – and those repeating nodes<sup>10</sup> within the three blocks – assembly hall, swimming pool and dining hall – plus, less frequently, the theatre (“whose name keeps changing”) and art rooms (or “the creative staircase”) comprise the topology of the participants' school maps.

Physically at the centre of the school's site, the sports playing field is “too precious to touch”. While it is ironically labelled “just a field” on one map, consistently it is cross-hatched, inscribed with floating alpha-numeric serif runes, and encircled by warnings “do not enter” and “keep off”. Flows of movement and figures are shown around its perimeter but are never shown trespassing on the “sacred field”. While not so forceful as the prohibition on the sports field, some mappings also exclaim “walk on the left” and “tuck your shirt in”. “Life lessons” or “uninspiring inspiring story” (like “the story of how the biro was invented” and, presumably, a teacher's catch-phrase, “100% not A\*”) resound in the assembly hall under the motto “Dulce et Decorum est pro Patria Mori”.<sup>11</sup>

## #2. Fantasy

### *Representations of digital vs physical world*

The young peoples' mappings are often populated with fantastical creatures. Not the dog-headed tribes and sea monsters of previous centuries, although unicorns have survived into the 21st century imagination, but contemporary creatures that largely have crossed-over from the worlds of online gaming, animation and movies and can embody quite mundane fears like Godzilla's “acid breath”. How young people understand and interact with the world is influenced by games like Minecraft and by the ubiquitous camera-phone constantly connected to imagery via 4G mobile networks. Social media even influences spoken language with one pupil at Walker Technology College prefixing a statement made to his teacher with the word “hashtag” for emphasis.

“Where does Facebook live?” was first asked of us

by another of the participants at Walker Technology College, but became a key question for us to ask in subsequent workshops. This question provokes a wider discussion about the relationship between the digital and physical worlds and how the young people interacted with and through social media and the internet.

### *Devices and interfaces*

The virtual and physical worlds increasingly overlap, both geographically, with geo-locational games like Pokémon Go, and physically, in relation to the body and interface devices. For example, console games, ‘apps’ and the internet were often depicted as having a haptic rather than a cognitive relationship to the body. Although the paper space around the outline of the “Mappa Mundi” figures was not extensively drawn on, mental health worries featured as a cloud of tendrils stretching out from brains and the virtual world was depicted extending from fingers in the mappings at Benfield School.

### *Identity and consumption*

On the “My World” maps produced at Walker Technology College, logos, including social media ‘apps’: Messenger; Facebook; Instagram; Snapchat; and Twitter; as well as YouTube, appear as parts of physical routes, or else are associated with physical locations such as fast food outlets, MacDonald's and KFC, the supermarket Asda and local convenience stores, Premier and Whites. “Town” (meaning Newcastle City Centre) is often depicted just as the Eldon Square Shopping Centre, clothing outlets including Jack Wills and Hollister are listed and sports brands, Nike and Adidas, are identified as if geographical destinations.

## #3. Friends and Family

### *Important people*

Many maps include representations of the homes of friends and family members (particularly extended family members, “nanas”, “grandmas and grandads”). Home and family typically were placed at the heart of the “Mappa Mundi” portraits. School and money were nearly always related to the head, although aspirational future careers and lifestyle signifiers such as cars were not related to money and the head, but with distance at the extremities of the limbs, especially legs.

### *Important places*

Participants' mappings showed other places which were important to them. For both the participants at Walker Technology College and Benfield School, Walkergate, in adjacent areas of early-20th Century, inner suburbs to the east of Newcastle city centre, those important places included; the MetroCentre – a large shopping mall at the west end of the Metropolitan Borough of Gateshead accessible by bus, train and car from the A1; and St. James' Park – the city centre football stadium which is the home of Newcastle United Football Club (NUFC). For pupils at Walker Technology College, Walker Activity Dome<sup>12</sup> was the most significant local landmark for navigation and identification with place.

The cemetery in Heaton, around 2.5 miles from Walker Technology College, was highlighted on four of the annotated orthographic maps during a single workshop with a class of 27 pupils. One story was poignantly elaborated upon by a "My World" map with a row of headstones inscribed "RIP uncle, RIP daddy, RIP grandad, RIP uncle". Other participants, who had also lost their fathers, described their visits to the cemetery were a regular part of their family's routine outings.

Another specific, but more geographically remote, landmark<sup>10</sup> of significance to the participants in both Walker and Benfield schools was an area of open moor to the north of the city centre known as Exhibition Park. This was initially confusing to us until we remembered this was the site of 'The Hoppings', Europe's largest travelling fairground, which has been held on the site in the last week of June for the last 135 years.

### *Current affairs*

Many of the participants were aware of, and took an interest in, current affairs. With the US election taking place towards the end of the period of our project, and coinciding with the workshops with years 6 and 7 pupils (aged 11-13) at Benfield School, the name of Republican presidential candidate, Donald Trump, featured on a number of the "Mappa Mundi" portraits. When questioned about his inclusion on their mappings, the participants described him in terms of a figure of ridicule, primarily for his physical appearance, drawing comparisons between his inflammatory campaign statements about non-US nationals or

minority racial groups in the US and Trump's own "orange" complexion and frequent denials that he wears a wig. "Donald Trump" was either inscribed in ironic 'love hearts' placed on stomachs [perhaps representing belly laughs? or a reference to much-reproduced newspaper photographs of topless NUFC fans with the club's logo tattooed on their distended beer bellies?] or stomped underfoot.

## **#4. Journeys**

### *Migration*

Space2 was created by NE1, the Newcastle Business Improvement District company, and is run by the YMCA. It provides support to 13-18 year olds to find employment through coaching, practical experience and developing contacts, as well as providing a social space after school with pool tables and loud music. At the time of the workshop, Space2 occupied a former bank in the ground floor of an office building which formed part of Newcastle's thriving, grassroots arts community that had taken over a city block on "meanwhile leases" for artists' studio and exhibition spaces. The demographic of Space2's clients is unrepresentative of young people in Newcastle as a whole, comprising mainly of émigrés and the children of naturalised immigrants. However it is through this shared experience that they identified with each other at Space2, overcoming any particular ethnicity or cultural background. Unlike other 'Mapping the City' workshops, the Space2 mappings show connections to family on a global scale and are visually redolent of the maps of flight paths in airline's in-flight magazines (Fig. 3).



Figure 3. "World Map" Space2 workshop with Michael Jeffries

At Benfield School, one group “Mappa Mundi” listed the three participants’ countries of origin – Iran, Portugal and Pakistan – alongside “my sister” in Italy, and visits to New York, Paris, Casablanca in Morocco and, less specifically, to Spain and India.

#### *Future aspirations*

The past and future stretched out along the legs of the “Mappa Mundi” portrait mappings. For both the future medics and the future tattoo artists at Benfield School, leaving school and going to university, “a good job”, a “nice car and lush girlfriend” seemed common aspirations, but were much more remote and abstract to 11 year olds than a foreign holiday reached by aeroplane, or visiting family in a geographically much more remote part of the world. New York was the only foreign city, as opposed to a country, to appear on more than one map (featuring on five out of ten of the “Mappa Mundi” group portraits).

#### **Significance**

We are aware that drawing straight-forward generalisations from the data is intellectually problematic. We have deliberately chosen instead to elaborate our themes using specific examples, referenced to particular locations/ schools and to the participants’/ cohorts’ ages, with which to illustrate the commonalities across the data. While this ‘sampling’ approach is consistent with the presentation of similar research, it could be seen as merely transcribing anecdotally interesting aspects of the mappings. Tentatively therefore, we would offer two summative observations at this point:

Although workshops were held with participants from diverse socio-economic backgrounds, the aspirations, knowledge, concerns and worries were remarkably similar across these groups. Anecdotally, age was a greater factor in defining their experiences, interests and attitudes, rather than their geographical location, comparative wealth or ‘cultural capital’.

As revealed by their mappings, the ‘versions’ of the participants’ schools are unlikely [we would speculate] to be the mental images which the adults in those institutions might wish to imagine, but they are redolent of my own memories of school. Specifically, they demonstrate the micro-geographies of power and the strong identification of social belonging with the physical occupation of space. In the binary definitions

of Michel de Certeau’s *The Practice of Everyday Life* (1984), authority is “strategically” asserted, abstractly and arbitrarily by the school rules, over and through spaces, but it is “tactically” subverted ‘on the ground’ by the students themselves and through alliances with sympathetic teachers.

In the following section, the paper considers some possible implications of the material generated in this research and the uses of mapping in relation to architectural pedagogy and practice.

#### **Reflections on participatory mapping in architectural pedagogy and practice**

As previously outlined, the ‘Mapping the City’ Project derives in part from contemporary discourses in geography, critiquing the ontology of the map and capturing the processual performance of mapping and the collective, discursive construction of place. While analysis of the mappings created during the project is inherently of interest to anyone who wishes to understand (some) young people’s identification with their schools, neighbourhoods and city – as they currently exist – this will only take us so far toward the overall aim of producing a ‘Manifesto for the City’ by and for the young people. The challenge for the next phase of this project is to shift from identifying the known to identifying the unknown, the academic to the propositional. To start to consider how young people can be facilitated to identify and propose what they do not yet have, this paper will now reflect on how some architectural students undertake the transition from investigating known conditions to testing speculative and hypothetical propositions.

#### **From “problem setting” to “problem solving”**

My Master of Architecture dissertation tutorial group nominally have an interest in contemporary arts practice but, increasingly, either investigate the application to architecture of various forms of participatory and action research, or else employ aspects of those methods and content analysis techniques to different groups, social conditions and geographical areas. As an example of each approach, Tom Hewitt (MArch 2017) created a geo-located audio archive<sup>13</sup> with long-term residents of the Bensham and Saltwell areas of Gateshead. Subsequently he adapted the “walking-talking” research method to facilitate a “deep reading” of the site of his design thesis,

developing a critique of, and proposing an alternative to, the Local Authority's Local Plan proposals for the development of this area. Taylor Grindley (MARCH 2017) investigated spatial privatisation and pseudo-public space for his dissertation using Old Eldon Square in Newcastle City Centre as a case study. His satirical design thesis proposed infiltrating the duct work and plant servicing the newly refurbished foodcourt, tactically subverting the rooftop with a labyrinth evoking both a historic event on the site and individuals' childhood memories as a critique of the prevailing monoculture of consumption. Both Tom and Taylor used mapping techniques as part of the research methods for their dissertations and that research influenced aspects of their design theses.

### Echoes of Bensham

For his dissertation, Tom was primarily interested in walking (and "walking-talking" interviews) as a research method for soliciting a sense of place with which to *inform* architectural interventions. He notes "the *propositional* eye of the architectural practitioner is the *critical addition* to... [the] research." (p. 5) [emphasis added]. He first used a number of different mapping exercises to learn about the area prior to walking it, to build trust with the local community and to recruit new research participants through word-of-mouth. However, he observed some limitations to the mapping techniques with one group of elderly participants who insisted they "'could not draw' (well, rather than physically)" (p. 11) and, when engaging with a group who meet regularly, noted there "can be a greater degree of hostility to participation if [the exercises were] not discussed *in person* a session beforehand." (p. 11) [original emphasis]. Ultimately the process of mapping acts as a prompt to articulation of oral histories and place associations, so Tom concluded that "walking-talking" interviews had an advantage in facilitating the researcher/ architect to enter vicariously into the research participant's sense of place(s): understanding demolished reference points, former building uses and local toponyms. However, "walking-talking" interviews are time-consuming and may exclude those participants with the longest experience of a place if they are unable to walk for prolonged periods (p. 19), so mapping enabled him to capture these narratives. Julia Aoki and Ayaka Yoshimizu (2015 p. 276) suggest ethnographers become

"co-implicated in place making" with the research participants, but ethnographers also bring their own subjective, personal and "institutional entanglements" and experience which distances the researcher from being fully "emplaced", separating them from the "sensuous" experience. Tom was careful to consider and record his own, a priori assumptions and the limitations of his research as an 'outsider'.

### In Old Eldon Square

Participatory research was only one aspect of Taylor's dissertation and its influence on his design thesis was more tangential than Tom's research into methodology. Taylor's thesis drew on his historical research, which had identified how the history of the site mirrored the waxing and waning within wider society of public and private, social and commercial development. His dissertation sought to draw attention to the means by which the most recent redevelopment used both overt and covert measures, identified by the mappings produced in Old Eldon Square, to exclude certain groups of people.

Eldon Square was originally intended to be a private, gated garden, on the model of Bloomsbury in London, for a development of Palladian-style Georgian townhouses built on three sides by developer Richard Grainger in 1825. The development of the fourth side of the square, Blackett Street, was piecemeal and comprised of civic and commercial buildings rather than residences. By the end of the 19th Century, the gardens had been adopted by the City Council and made "unconditionally" open to the public (p. 19). In 1923 a memorial to World War I was erected there and remains the focus of the annual Remembrance Sunday service commemorating Armistice Day. From the late 1960s Eldon Square became a gathering point for groups of young people for free concerts and a somewhat dangerous-looking (to contemporary eyes!) creative play area for children in the summer. In 1970, demolition began of two sides of Grainger's development, as well as the buildings along Blackett Street, to be replaced by the inward-looking and rhizome-like Eldon Square Shopping Centre which opened in 1976. While a petition saved the war memorial, the council's plan for the square as a "Trafalgar Square of the North", with concerts on the terraces, never materialised. A commercial recreation centre within the shopping centre opened in 1978 to

try to dissuade young people from gathering in Old Eldon Square but, throughout the 1980s and 1990s, the independent shops located in the remaining Georgian townhouses attracted young people to the area nicknamed “Hippy Green” and, more recently, “Goth Green”. Redevelopment of the shopping centre since 2005, creating new, street level frontages to the square for chain restaurants and cafe franchises initially led to conflicts with commercial tenants who, having obtained licenses from the Council permitting them to place street furniture on the square, cordoned-off areas of public space for the exclusive use of their customers. The shopping centre’s security staff are often called upon by these tenants to act as ‘first responders’ to incidents ahead of police or ambulance services and also are permitted to serve on-the-spot fines of £100 for infringements of the conditions of the council’s 2016 Public Space Protection Order prohibiting rowdy behaviour and the consumption of intoxicating substances in the square.

For successive generations of young people, the square has been an important ‘third place’ – a social space which is neither home nor a place of work or school – in which “to be our selves (sic)” and is fondly remembered by those who frequented it in the 1990s as a place of “black leather; a place to hang about, whilst not getting in anyone’s way.” [Emphasis added]. The present teen population have a more ambiguous relationship, “We get moved on all of the time. From one corner to another. It’s pointless, but I guess then we are out of sight.” (p. 55).

The relocation of the family-friendly, free “Cinema on the Green”, from its previous location around the corner at Grey’s Monument to the front of the last remaining terrace of Grainger’s townhouses in Old Eldon Square, superficially presents the appearance of a return of the inclusive and non-commercial Newcastle Festivals of the early 1970s. However, this is not a community project but staged by NE1, the Business Improvement District (BID) company. Funded by a compulsory levy on businesses, BIDs are usually non-profit making companies, who invest in delivering additional services in the public realm to benefit businesses. The young people, pushed to the margins of the square by the redevelopment of the Shopping Centre, kept circulating around the square by security to prevent them congregating, finally are pushed out of sight with the colonisation of their ‘third

place’ by sponsored deckchairs.

These two examples start to hint at how participatory practices may be used to create more inclusive narratives and inspire empathetic design solutions, uninhibited by that research.<sup>14</sup> However, in asserting this, I am also conscious that well-meaning, participatory research can be just as easily used to facilitate the supercharged commercial redevelopment of our city centres - against the interests of the people the research is intended to represent - as any cynical, lip-service ‘public consultations’. There are now numerous documented examples of community-based projects and artists, engaged by funding organisations to work in ‘hard to reach’ communities (i.e. those with little economic power or political representation) being instrumentalised in the contested process described as “gentrification”. To opponents, this process amounts to “social cleansing”, inevitably leading to the displacement of those communities who do not benefit from the investment and redevelopment<sup>15</sup> as Taylor’s research has documented in Old Eldon Square.

### Next steps

The objective for the next phase of the “Mapping the City” project is to develop a suite of co-designing tactics with which to engage young people critically in urban design and the planning process. While Taylor and Tom have had several years of specialist education developing their architectural-thinking<sup>16</sup> and ‘propositional eye’, can we now abstract what have they learnt to do and make this explicit and available to any young person to influence their built environment?

We are seeking funding to launch similar, “Mapping the City” projects in urban centres across the ‘Northern Powerhouse’ region, both to celebrate the young people’s sense of place and to identify which of their needs are not being met currently. Through these projects, the intention is to empower young people to influence policies and decisions about the environments that will impact on them now and into the future. By facilitating young people to propose positive, tangible and inclusive solutions, this should help them secure their rights to the city(s) where they live.

### Conclusions

This paper documents the first phase of the ‘Mapping the City’ project. In the paper we outline



our theoretical framework elicited from recent developments in processual or 'post-representational' cartography and highlight the performative nature of mapping. In order to understand how place and territory is created by the practice of mapping it is important to capture the intertextual and discursive production process. Development of the exercises undertaken by participants in the 'Mapping the City' workshops are then described. A methodology for analysing the resultant drawings was derived from the work of photographer and anthropologist, John Collier, and applied; initially all of the mappings were considered holistically to identify a common thematic framework. Four themes were identified - education; fantasy; friends and family; and journeys. The mappings were then considered individually, by workshop and by exercise, one at a time, and the four themes were elaborated upon, observations documented and tentative conclusions drawn.

The paper also describes how participatory research techniques have informed my own architectural pedagogy and the practices of some of the students I have tutored. When working with existing communities, I propose such techniques could enable architects to gain richer insights leading to more empathetic design solutions. However, this paper also cautions that attempts by community-based artists at engagement with similarly disenfranchised communities have, inadvertently, sometimes produced negative consequences for both artist and community.

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- 1 <https://accidentalyouthclub.wordpress.com/>
- 2 Harley, 1989
- 3 Throughout the "Mapping the City" project we have repeatedly used, abused, and physically and digitally manipulated the NewcastleGateshead "Walk" map: [https://www.newcastle Gateshead.com/dbimings/Walk%20Map%20April%202015\(2\).pdf](https://www.newcastle Gateshead.com/dbimings/Walk%20Map%20April%202015(2).pdf). One 'Team Juice' volunteer, assisting at the Newcastle City Library workshops, added to the Walk map "places for Batman"; thus implying the third dimension of the city, not shown on the map, by identifying locations of tall buildings. By overlaying the iconography of a fictional narrative, the Team Juice volunteer also showed his knowledge and 'reading' of the city unrelated to the vehicular and pedestrian connections the map depicts.
- 4 We were also invited to undertake workshops by the Geography Department at Berwick Academy as well as in schools located in Newcastle upon Tyne.
- 5 <http://visualarts.britishcouncil.org/collection/artists/perry-grayson-1960/object/map-of-nowhere-perry-2008-p8194>
- 6 In John Collier Jr. and Malcolm Collier (1986) *Visual anthropology: photography as a research method*. Albuquerque: University of New Mexico Press. (pp. 178-179) John Collier proposes a four-stage 'basic model for analysis':  
First stage: observe the data as a whole, noting the impressions and all questions brought to mind;  
Second stage: inventory the evidence for its general content, structure the inventory and the context and categories of the research goals;  
Third stage: analysis of the evidence with reference to the specific questions and detailed descriptions for comparison;  
Fourth stage: return to the complete data set and review for significance of the details to re-establish the full context.  
In *Visual Anthropology*, Collier records that he was unable to write his findings after the third stage. The amount of detail collected from the images overwhelmed him and he was unable to identify a hierarchy of significance in his observations. He proposed the fourth stage was necessary to reacquaint himself with his initial reactions prior to writing up. This stage was not replicated in the method described by Béneker, Sanders, Tani and Taylor (2010) which, I believe, is a consequence of their contrasting approach to the Second Stage. Whereas Collier creates many detailed categories, Béneker et al. (2010) identified only three broad themes; "(1) depiction of social issues, such as crime, violence or terrorism and drug or alcohol abuse; (2) environmental issues, such as vehicle and factory pollution; and (3) depictions of open/green spaces such as parks, forests and children's play areas." (p. 128). Rickie Sanders, the American research partner for "Picturing the City" (2010), also identified a fourth category in the participants from American schools of "specific characteristics ascribed to people who live in the city." This category was not noted in the drawings of cities from the schools in the three other countries.
- 7 The four themes subsequently also formed the conceptual framework for the "Mapping the City II" exhibition at Newcastle

City Library during the Juice Festival 2016, which presented the findings of our research in public.

- 8 Curiously, this is in marked contrast to the Béneker et al.'s observations in "Picturing the City" (2010), where the young people's depictions of abstract 'city-ness' included tall buildings and cars, but few people. We intend to consider this contrast between the depiction of the abstract and the lived experience of the city in a subsequent stage of the manifesto project with Juice.
- 9 Slang meaning either unfair or, in this instance, rubbish.
- 10 Kevin Lynch's seminal 1960 book "The Image of the City" proposes five basic elements that make the building blocks of everyone's mental maps: paths, arrange space and the movement between spaces; edges, are boundaries, which can be real (such as walls) or perceived; districts, are two-dimensional zones, with common characteristics, that can be entered; nodes, are areas that can be entered and serve as a foci for the city, neighbourhood or district and offer multiple perspectives of other elements; landmarks, are points of reference for navigation, but which are not typically entered.
- 11 Trans. "it is sweet and honourable to die for one's country".
- 12 Formerly known as the Lightfoot Centre, the Walker Activity Dome is a sports centre originally designed by local architectural practice, Faulknerbrowns, with a timber frame and translucent, polycarbonate cladding, now replaced. It was the largest dome in Europe at the time of construction.
- 13 The soundmap is available on Android and iOS via <https://echoes.xyz/>
- 14 This sentiment echoes Gaver et al.'s (2004) article in *interactions* magazine, concerning their use of 'Cultural Probes', which has been influential on my thinking tactically about research through design.  
"The probes were part of a strategy of pursuing experimental design in a responsive way. They address a common dilemma in developing projects for unfamiliar groups. Understanding the local cultures was necessary so that our designs wouldn't seem irrelevant or arrogant, but we didn't want the groups to constrain our designs unduly by focusing on needs or desires they already understood. We wanted to lead a discussion with the groups toward unexpected ideas, but we didn't want to dominate it." (p53).  
William W. Gaver, Andrew Boucher, Sarah Pennington and Brendan Walker, 'Cultural Probes and the Value of Uncertainty', *interactions*, September + October (2004), 53-56.
- 15 For example, the protests against Bow Street Arts' Live/Work scheme for aiding developer, Harca Poplar, to decant social tenants allowing redevelopment of Balfron Tower as 100% privately-owned apartments. See: <https://50percentbalfron.tumblr.com/post/150442398164/the-fall-of-goldfingers-brutalist-balfron-tower>.
- 16 Using Kolb's theoretical "Learning Styles Index", Richard Tucker proposes architecture students acquire a consistent approach to solving design problems through their education. See: <http://sydney.edu.au/architecture/documents/publications/ASR/Southern%20Drift.pdf>

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# Designing a 4-dimensional digital learning environment for construction-related disciplines.

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## ABSTRACT

This paper examines the development of an Australian Office for Learning and Teaching funded 4-dimensional (4D) digital construction environment and associated learning activities. The 4D environment aims to enhance the contextualisation of learning, and provide a practical alternative to work-integrated learning for large student cohorts through job placements and site visits. The paper describes the development of the 4D environment and examines the evaluation and impact of learning activities and assessment strategies developed in association with the learning environment. The paper concludes with reflections on future 4D environment development and applications.

**KEYWORDS** digital learning environments, immersive learning, problem-based learning, construction related disciplines, virtual site visit

Producing graduates who can engage effectively in their chosen professional settings is a recurring theme in higher education. Much of the debate evolves around the need to balance the theory delivered in a classroom with the practical skills developed in a workplace<sup>1</sup> Work-integrated learning, where students apply disciplinary knowledge and skills in a real-world context, is one approach that seeks to address this issue.<sup>2</sup> Yet tensions exist between the opportunities afforded by the workplace, and the demands of placing large student cohorts in that workplace while ensuring pedagogical rigour.<sup>3</sup> For students in construction-related disciplines, access to building sites to contextualise learning is an additional problematic

issue.<sup>4</sup> This suggests opportunities exist for alternative approaches that provide the benefits of work-integrated learning through a technology-enhanced medium.<sup>5</sup>

This paper reports on an Australian Office for Learning and Teaching funded project that developed a 4-dimensional (4D) digital construction environment and associated learning activities aimed at addressing this issue. The paper describes the development of an interactive 4D Construction Learning Environment that provides access to digital photographic surveys undertaken at regular intervals during the construction of the University of Queensland's AU\$135 million Advanced Engineering Building (AEB) in Australia.

The 4D environment incorporates additional resources associated with construction including technical drawings, contract administration documents, time-lapse videos and interviews with project personnel. The paper also examines the evaluation and impact on student learning of a variety of learning activities and assessment strategies developed in association with the learning environment. The paper concludes with reflections on future directions for the 4D environment and areas that warrant further exploration.

### **Project Context**

Computer-simulated virtual reality environments linked to gaming technology have been developed as educational platforms across a variety of professional disciplines, including medicine, management and engineering. The aim is to create an environment where real experiences can be replaced with simulated ones ‘that evoke or replicate substantial aspects of the real world in a fully interactive fashion’, but where the learner interaction can be guided.<sup>6</sup> Virtual reality environments are, however, expensive to construct, and they currently offer limited practical detail and contextual complexity.<sup>7</sup> The impact of virtual reality on student learning and engagement is also only now starting to be examined.<sup>8</sup>

Recent studies have explored the efficacy of computer-simulated virtual reality learning environments in response to the theory-practice debate. For example, De Freitas and Neumann argued that the self-directed nature of computer simulations had the capacity to empower learners.<sup>9</sup> Before more open-ended exploration can be effective, however, there is still a need for structured activities and academic interaction to guide the acquisition of primary knowledge.<sup>10</sup>

Further studies have found that the level of user interaction is a major strength of computer-simulated environments.<sup>11</sup> This interaction is generally produced through the use of an avatar navigating within a virtual world. While fostering active participation, we maintain that navigating in learner teams through a digitally captured ‘live’ construction site provides an additional level of real complexity not found in a virtual world. The capacity of immediate peer-to-peer learning further enhances a sense of collaborative immersion and relevant experience.<sup>12</sup>

A final area of related literature suggests that

computer simulation supports the acquisition of higher-order thinking more efficiently and effectively than traditional learning methods.<sup>13</sup>

Also being explored is the potential of virtual reality environments to enhance the impact of inquiry-based learning on student engagement and the development of cognitive skills.<sup>14</sup> To date, no studies have been found that focus on the development of a 3D learning environment using digital photographic images of a ‘live’ construction process over time (four dimensions), and none have been found that compare computer-simulated environments with digital photographic environments.

### **Project Background**

In December 2013, a two-year \$220,000 Australian Government Office for Learning and Teaching (OLT) Innovation and Development Grant (‘the project’), was awarded to a multi-disciplinary team representing architecture and civil engineering at The University of Queensland (UQ), construction management at The University of Newcastle (UoN), and architecture at the University of South Australia (UniSA). The project used an existing series of high-resolution, 3-dimensional digital photographic surveys that visually captured the AEB construction process over time.

The existing surveys had been processed into an initial 4D environment prototype called the 4D Construction Learning Environment Version 1. This early version provided self-directed access to 75 photographic surveys undertaken at one- to two-weekly intervals (four dimensions) over the AEB’s 2-year construction period. The project set out to expand the usability, or ease of use, and functionality, or range of capabilities, of the preliminary prototype. The primary aim was to enhance the capacity of the 4D environment to deliver real-life contextual settings for use across different modes of learning, multiple disciplines and various year levels.

To improve usability, the project team worked with a software developer and graphic designer to develop versions of the 4D environment that successively integrated feedback from student trials. To enhance capacity, the project sought to incorporate additional resources associated with the design and construction process. These included construction drawings, contract documents, time-lapse videos and



interviews with key members of the AEB's design and construction project team. These additional resources were made available in the 4D environment using a drop-down menu.



Figure 1. Screenshot from the 4D Construction Learning Environment at Level 2 Node 3 dated 24 May 2011

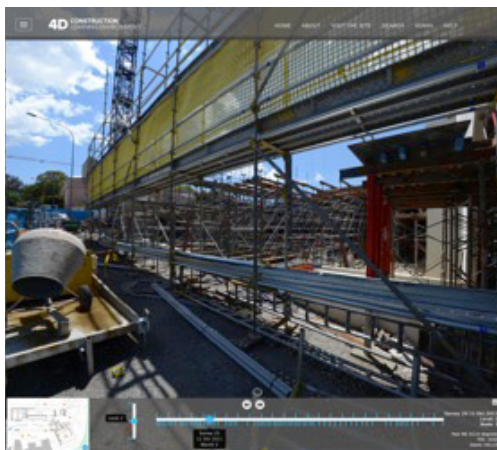


Figure 2. Screenshot from the 4D Construction Learning Environment at Level 2 Node 3 dated 7 October 2011



Figure 3. Screenshot from the 4D Construction Learning Environment at Level 2 Node 3 dated 29 June 2012

Comparison screenshots taken from the final Version 3 of the 4D environment are shown in Figure 1 (Survey 1 dated 24 May 2011), Figure 2 (Survey 20 dated 11 October 2011) and Figure 3 (Survey 50 dated 29 June 2012). The horizontal bar at the bottom of the page is used to navigate chronologically over the 75 surveys, the vertical bar is used to navigate up and down building levels, and the left hand plans are used to navigate around the building footprint. The icon at top left provides access to a variety of drawings and time-lapse videos.

Learning activity case studies have also been developed to describe the various teaching approaches trialled as part of the project. These varied from using the 4D environment as a simple demonstration tool during a conventional on-campus lecture through to simulating problems to activate student learning,<sup>15</sup> and using a collaborative problem-based learning approach to enhance critical thinking skills.<sup>16</sup> Learning activity case studies, a 4D environment development guide and technical specifications are available through the project website.<sup>17</sup>

### Research Methodology

The 4D environment adopted an 'exploratory learning' pedagogical model<sup>18</sup> derived from Kolb's four-stage cycle of 'experiential learning' from concrete experience, to observing and reflecting, to forming abstract concepts, before testing in new situations that become concrete experiences.<sup>19</sup> Kolb's experiences relate exclusively to 'lived' experiences. However, technology-enhanced learning may relate to virtual experiences gained through set tasks designed as a choreographed, often team-based, exploratory learning pathway.

The project itself adopted an action research methodology to ensure feedback was incrementally collected, reflected upon and fed back into the developing 4D environment and associated curriculum design.<sup>20</sup> The project was divided into the following four stages of approximately six months each:

- Stage 1 Development (Semester 1 2014) – investigated alternative teaching approaches, technology options and access to construction documentation and key personnel; reviewed existing curricula.
- Stage 2 Usability Trial (Semester 2 2014) – established how to integrate other resources;



devised new learning activities and assessment strategies; conducted a usability trial of Version 2 of the 4D environment; evaluated, reflected on and modified the environment into Version 3.

- Stage 3 Pilot Study (Semester 1 2015) – embedded other resources into the 4D environment; conducted Pilot Study trials of Version 3; evaluated, reflected on and modified the environment to Version 3.1.
- Stage 4 Evaluation (Semester 2 2015) – conducted further Pilot Study trials of Version 3.1; evaluated, reflected on and modified the environment to Version 3.2; finalised the project.

### Project Impact

One of the challenges in introducing innovative modes of learning in professional degrees is to not only ensure that new learning activities and assessment strategies meet course objectives, but also to ensure that new approaches do not threaten the program integrity in meeting university quality standards and the requirements of professional accreditation bodies. For example, Australian architecture programs are accredited against the *National Standard of Competency for Architects* (NSCA). The NSCA identifies 37 Performance Criteria across four Units of Competency that must be attained by graduates for accreditation purposes. Structured mapping indicates that utilising the full array of 4D environment resources would enhance the development of a number of competencies across the four Units of Competency (Design, Documentation, Project Delivery and Practice Management).

From a student impact perspective, evaluation collected from multiple courses in diverse programs across three institutions indicates that the 4D environment positively assisted understanding (82 per cent of respondents) and enhanced the learning experience (76 per cent of respondents). This suggests that the 4D environment assisted student understanding, and that enhanced learning takes place alongside the learning of new skills needed to navigate the 4D environment. This potentially increases the workload requirement for a particular learning activity, but is offset by the benefits that the 4D environment presents.

Finally, industry input and feedback on the project was largely in the form of individual submissions

through the Project Advisory Group. The real impact of this project on industry will only be felt as graduates who have been exposed to the 4D environment engage in their professional lives. These graduates will, ideally, display enhanced levels of understanding and performance when confronted with on-site challenges. However, assessment of the impact of the 4D environment on the development of critical thinking skills and work-readiness needs further targeted investigation.

### Project Evaluation

The project has been subject to seven evaluation events that have led to reflection on and subsequent modification of either the project approach or the 4D environment. The evaluation events have occurred as a consequence of the involvement of an independent Project Evaluator, the Project Advisory Group or after a deployment of the 4D environment with students.

These separate evaluations resulted in incremental improvement in both the functionality of the 4D environment and the design of the various learning activities trialled over the course of the project. The positive impact of evaluation on the development of the 4D environment and associated curriculum design is reflected in comparisons of the student evaluations for Version 2 of the 4D environment, conducted in Semester 2 2014, and Versions 3 and 3.1, conducted in Semesters 1 and 2 of 2015 and Semester 1 of 2016. The evaluation evidence, shown in Table 1, indicates that the 4D environment can be used effectively within existing course aims and professional accreditation structures to improve learning outcomes. Furthermore, the 4D environment was found to enhance students' understanding of construction processes, and to give them a means to learn collaboratively and contextualise theoretical material.

TABLE 1  
Summary of Student Evaluation Results

Evaluation Questions (% agree or strongly agree)			
1. Did you like the learning environment appearance?	2. Did you find the learning environment easy to use?	3. Did you find the learning environment assisted your understanding?	4. Did you find the learning environment enhanced the learning experience?
Semester 2 2014			
Year 3, Bachelor of Architectural Design <i>n</i> =59			
76%	66%	81%	69%
Semester 1 2015			
Year 3, Bachelor of Architectural Studies <i>n</i> =57			
96%	91%	91%	82%
Year 3, Bachelor of Construction Management <i>n</i> =39			
85%	85%	79%	80%
Semester 2 2015			
Year 1, Bachelor of Construction Management <i>n</i> =63			
83%	60%	67%	65%
Year 2, Bachelor of Engineering <i>n</i> =119			
95%	87%	80%	69%
Year 3, Bachelor of Architectural Design <i>n</i> =39			
97%	72%	82%	79%
Semester 1 2016			
Year 3, Bachelor of Architectural Studies <i>n</i> =61			
95%	85%	97%	95%

The purpose of the independent evaluation by Professor Stephen Loo, University of Tasmania, was to assess whether the project's outcomes achieved the stated aims and objectives. This evaluation assessed outcomes (the usability of the 4D environment – user interface and graphic design, scenario design, development of learning activities/curriculum) and the impact of the 4D environment for the team, students, institutions, the professions and industry.

The evaluation concluded that there is compelling evidence that the project makes a significant contribution to student learning and has gained research advances in teaching methods and curriculum development, and further that the relevant professions, industries and university programs stand to gain

from the project. The evaluation also found that the 4D Construction Learning Environment project is an effective departure from conventional teaching and learning approaches in the built environment disciplines, where it can be difficult to integrate real construction project information and provide visual evidence of events on site.

The project is challenging because it integrates 'analogue' technology for static panoramic photography into a new immersive technology platform. It provides students with simulations of real construction projects, so they can develop critical faculties in theory–practice relationships through workplace-integrated learning. Importantly, it allows the students to integrate knowledge from documentation sources in different professional domains – drawings, reports, site minutes, video interviews and stop-motion movies – when they see views of the construction that are framed in space and time.

The test of the longer-term impact of the project will be: how widely it is adopted; how it influences curriculum design in different institutions in the region; and whether it contributes in some way to the assessment of architecture programs. This contribution could be to accreditation (assessed by the profession) or to quality (assessed by the government).

## Conclusions

The 4D environment currently hosts one case study of a complex educational building type, the AEB at UQ. There is an opportunity to enhance the adoption and impact of the 4D environment through the inclusion of additional case studies of different building types, scales and geographical locations. In addition, the 4D environment has the potential to host additional self-directed and discipline-specific tutorials with pop-up text boxes to explain elementary technical terminology and construction processes.

The project has shown that the 4D environment has the capacity to enhance and contextualise student learning; however, the impact on the development of critical thinking skills and work-readiness needs further, targeted investigation. There is also scope to develop and evaluate additional innovative teaching approaches.

Finally, with the rapid development and application of technologies such as 3D laser scanning and advances in virtual reality software within the construction

industry, as well as allied areas such as archaeology, heritage management and urban and regional planning, there is an opportunity to investigate the integration of this technology and software into further iterations of the 4D environment.

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# Critical sustainability in the design studio. Pedagogic change through student engagement and collaboration.

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## ABSTRACT

Preparing the architects of tomorrow for the challenges of rapidly shifting global, regional and local environments must be at the forefront of architectural education. Sustainability is an essential concept that requires critical appraisal to develop innovative and successful means of addressing its issues. This research considers a final year MArch studio at a leading UK institution and asks how a critical appreciation of sustainability may be developed in students about to enter the architectural profession.

The research describes the results of an ethnographic study into the design studio to identify domains for change in collaboration with learners. It goes on to discuss the development of a sustainable design community of practice to developed strategies for enhancing critical sustainability.

Adopting a bottom-up approach the research sought to challenge hierarchical pedagogies and develop strategies that engender deep learning, meaningful behavioural changes and an inquisitive and nuanced approach to sustainability. Approaching architectural education from a learner perspective offered new and valuable insights into the relationship between sustainability and the design studio. Four domains for change were identified; the course structure and content, the specific learning experiences, the ethos and attitudes represented, and the context of the learning.

**KEYWORDS** sustainability, critical thinking, architecture pedagogy, design studio, action research

## 1. Introduction

Preparing the architects of tomorrow for the challenges of rapidly shifting global, regional and local environments must be at the forefront of architectural education. Sustainability is an essential concept that requires critical appraisal to develop successful design strategies. This research considers a final year MArch studio at a leading UK institution and asks how a critical appreciation of sustainability may be developed in students about to enter the architectural profession.

Mainstreaming sustainability should be a primary concern when developing architectural courses<sup>1</sup> and a core value that pervades the curriculum emphasising the relationship between discrete modules.<sup>2</sup> Courses must embrace the holistic nature of sustainability as well as avoiding assumptions about the future.<sup>3</sup> Perceptions and attitudes towards sustainability must change in learners before effective teaching can take place.<sup>4</sup>

Deep learning is a key strategy for educating

architects for critical engagement with issues of sustainable development.<sup>5</sup> It is associated with analysis and creative-restructuring of information requiring a holistic and multi-disciplinary appreciation of sustainability.<sup>6</sup> Promoting the design studio as central to architectural education has been identified as essential to developing deep learning.<sup>7</sup> Indeed it appears the ideal site for deep sustainability as it encourages both independent and problem-based learning.<sup>8</sup> Teaching sustainability through the design studio can increase critical engagement and awareness of its multi-faceted nature, encouraging acceptance that it is a contestable and value led concept.<sup>9</sup> The design studio also has the potential to encourage transdisciplinary learning.<sup>10</sup>

Despite the body of literature describing the need for deep learning in the design studio there is little research conducted from a learner perspective with most studies considering an educator-centric approach.

## 2. Reflection-in-action, Experiential Learning Theory and Deep Learning

The design studio remains the primary means of educating architects and it describes an environment, an event and a pedagogy.<sup>11</sup> The nature of learning in the design studio was described by Donald Schön<sup>12</sup> who refers to multiple reflective processes embedded in action. *Reflection-in-action* describes a process of simultaneous creation and evaluation through engaging with professional tools, such as sketching, drawing and model making. In contrast, *reflection-on-action* is a conscious act happening after the event and may take place in design reviews or *critiques* (crits). Through experience of the iterative process of design, students, absorb knowledge unconsciously which becomes tacit. *Knowing-in-action* describes this understanding and the ability to apply it obtained through previous experiences of *reflection-in* and *reflection-on* action.

These processes can be categorised by their speed of decision making: *knowing-in action* occurring instantly; *reflection-in-action* occurring rapidly and simultaneously with doing; and *reflection-on-action* occurring slowly and deliberately.<sup>13</sup> These reflective processes are linked to the concepts of single and double loop learning described by Schön and Argyris.<sup>14</sup> The former refers to a process of inward problem

solving within accepted bounds, while the latter describes reflecting critically on those actions, learning from failure and questioning assumed values.

Kolb's Experiential Learning Theory (ELT)<sup>15</sup> has been identified as a means of achieving effective deep learning.<sup>16</sup> Where Schön's theory is limited in scope and description, ELT has a breadth that can accommodate the holistic nature of learning. ELT frames learning as a four stage cyclical process whereby the learner moves between opposing notions of perception (grasping knowledge) and process. Knowledge is *grasped* through either *concrete experience* (specific encounters founded in the real world) or through *abstract conceptualisation* (knowledge in the theoretical domain). It is processed through the opposing actions of *reflective observation* (conscious analysis) or *active experimentation* (hands-on activity).

In ELT, deep learning can be considered as the integration of the four modes of learning representing the change from the focus on one particular learning style towards a holistic approach.<sup>17</sup> According to Kolb, an environment that enables deep learning must cater for the four modes of the experiential learning cycle and encourage activities that involve conceptual knowledge acquisition, active experimentation, concrete experience and reflective observation. Transitions between these modes must be fluid and an idealised deep learning spiral continuously 'touches' each of these elements.<sup>18</sup> Providing space for diverse learning modes and emphasising higher level integrative practices or double-loop learning is therefore essential for deep-learning.

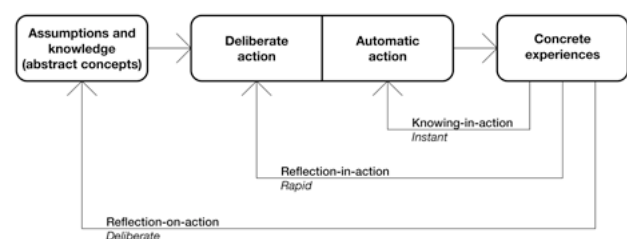


Figure 1. Processes for deep learning in the architectural design studio (Robert Grover)

Figure 1 presents Kolb's learning cycle with reference to the various modes of reflection defined by Schön. *Knowledge-in-action* and *reflection-in-action* shortcut the whole learning cycle and fail to address the critique of assumptive knowledge of *reflection-on-action*. It is the double loop learning cycle in



which deliberate reflection enables the critique of assumptions and prior knowledge.

### 3. Communities of practice

Placing learners at the centre of the environment is necessary for experiential learning<sup>19</sup> and provides opportunities for change from a bottom-up, learner perspective. Empowering students to become agents of change should be at the forefront of sustainable learning in order to develop social and collaborative action. A Community of Practice (CoP) may offer a vehicle for this action. A CoP is formed when a group of people with a common agenda engage in a collaborative learning effort, both for individual and group benefit.<sup>20</sup> It is defined by three primary characteristics: the domain, the community and the practice.<sup>21</sup>

The domain defines the common interests of the group. It is the purpose of the community to define the activities and practices that it undertakes, share ideas and exchange knowledge.<sup>22</sup> In this instance the domain is sustainable design and its critical application in the design studio. The studio may offer a site for generating such a community which must have a shared practice. Together, they develop the tools, the ways of working and methodologies to address the issues within their particular domain.

CoPs may provide a platform for deep and experiential learning by allowing learners to define their own learning, generate shared knowledge, engage in collaborative processes and provided an environment for critical dialogue.<sup>23</sup> It may enable broader reflective practices by standing adjacent to traditional studio practice.

Stages of the development of CoPs within organisations and for the benefits of members invariably begin with an initial inquiry followed by design, prototype and expansion.<sup>24</sup> A sustainable design CoP may be involved in developing learning at all stages of the experiential learning cycle. This involves critiquing existing sustainability approaches in the design studio, enhancing relevant, learner-centred conceptual knowledge acquisition, developing expertise and skills, developing and testing alternative design methodologies, increasing exposure to exemplar projects and methods and allowing for exposure to a wider range of perspectives.

### 4. Methodology

This paper asks to what extent the traditional design studio provides an environment for holistic experiential learning which may enable deep learning for sustainability through meta-reflective practices. It forms the initial inquiry to the creation of a sustainable design CoP.

The research adopted a *naturalistic* paradigm and as such it was conducted in a natural setting and results are contextual, value-bound and consist of various overlapping realities which generated *working hypotheses*, rather than concrete theory.<sup>25</sup> This approach is appropriate when considering forming a CoP. Firstly it is purposive, that is it samples a particular context in which the CoP is to be formed. Secondly, it responds to the participatory nature of a CoP by developing emergent theory and design which responds to the particular characteristics of the population.<sup>26</sup>

The initial inquiry stage took place between October 2016 and February 2017. An ethnographic study was undertaken to identify issues and possible domains for change. The participants in the study were final year MArch (RIBA 2) students at the study University of the 2015 Intake. The participants were typically in their sixth year of formal architectural education.

The researcher was a member of staff in the department but not directly involved in teaching on the MArch course in order to avoid possible bias. The role of the researcher was predominantly be one of *observer-as-participant*.<sup>27</sup> In this role most data were gathered through relatively formal settings, (scheduled interviews and planned observations) in which the researcher was considered '*acceptable incompetent*'.<sup>28</sup> In all cases the participants were aware of the presence and role of the observer. The researcher's role allowed a passive approach that limited impact on the students. The openness of the study and knowledge of participants negated the potential ethical implications of a more immersive researcher role. It allowed a broader data set to be gathered, maintained a suitable distance from the subjects and avoided possible ethical issues. Consideration was also given to discretion in interviews, responsibilities to student welfare, preferential treatment and respecting the attitudes of students to remain anonymous.

Data collection began in October 2016 and involved

a cyclical process of collection, analysis and validation which informed further cycles.<sup>29</sup> A voluntary sample of 12 participants within the population (n=30) were interviewed for between 15 and 30 minutes each to limit disruption to student's learning. This provided a baseline understanding and informed further data collection and analysis and provided a manageable and relatively small sample which was examined in its entirety. As well as students, a number of educators on the course provided supplementary interviews.

Data saturation is an important concept in the creation of theory however, its application in this case to the naturalistic paradigm used is problematic. Sampling of more students was impossible without ethical implications due to the number of volunteer interviews. The timescale of the studio limited data collection to a three-month period which defined when the researcher exited the field. Instead the study seeks transparency through the description of collection methods and findings and accepts further exploration may be required.<sup>30</sup>

The field of study was the final year MArch design studio at the study university taking place over a single academic year. This allowed participants to have a reflective view on their architectural education and were most likely to go into architectural practice, maximising potential impact of the research. The MArch course is organised through a single studio in which all students undertake a self-defined project in a European city of their choice. The first half of the year is organised into groups, each of which undertake a masterplanning project. The second half is an individual project in the chosen city with a brief defined by the student. Studio tutors support the students and in the second half of the year each student is assigned a tutor to guide them through the project. The participants had a sophisticated level of design ability and could articulate values and understand issues.

#### Data Collection

At the start of the year (October 2016) the voluntary sample of participants were interviewed using a semi-structured interview guide approach.<sup>31</sup> This approach enabled comprehensive data collection while allowing space to explore emergent themes and develop open ended answers. A similar technique was employed when interviewing educators.

Observations of crits were undertaken by the researcher in a *naturalistic* manner.<sup>32</sup> The crits provided a formal educational encounter which provided data on the student/educator. Observations were noted and categorised in-situ paying particular attention to the theming of discussions taking place in the crit as well as the nature of this dialogue.

Student design reports, completed at the end of the first semester, course materials (primarily studio assignments), intended learning outcomes and RIBA and ARB validation criteria provided *ex post facto* data that were analysed and triangulated with the observational and interview data collected.

#### Analysis

Analysis of the data occurred in tandem with collection allowing a continuous process of verification and theory generation.<sup>33</sup> On a practical level, the researcher could deal with a large quantity of data and sufficiently narrow the field of inquiry in later study.

The method of data analysis was based on a modified constant comparative method.<sup>34</sup> Due to the aim of the naturalistic paradigm to understand multiple competing realities rather than enabling prediction,<sup>35</sup> the stages of analysis is limited to data processing, continuous development and the development 'working hypotheses'.<sup>36</sup>

These approaches can be synthesised into a seven step process<sup>37</sup> in which data were unitised (coded), clustered into domains, relationships established, inferences made, summarised, negative cases sought and theory generated.<sup>38</sup> NVivo, software which supports qualitative and mixed methods research, was used to analyse and code the data.

### 5. Results

#### Content and product

In the MArch studio, sustainability was the explicit primary driver of the project brief (the project was entitled *Sustainable Cities*) and highlighted the importance of *extremely low carbon propositions*. Students were required to develop a *conceptual, reflective and critical* approach to architectural inquiry. Sustainability became the *raison d'être* for urban intervention highlighted by a number of students:

*"Because [sustainability] becomes our design agenda you are almost forced to do it. We are creating a*

*sustainable city. It's in the name so you're almost forced to do it.*" (Student 002)

Analysis of final projects and crits (formal pin-ups reviewed publicly by a panel of architects) revealed that although students actively engaged with sustainability issues they exhibited narrow conceptual approaches tending to focus on local environmental issues (such as sustainable transport and the impact of de-industrialisation) and regional issues (such as water shortages and air pollution). For example, one scheme created a 'forest ring' around the centre of the city which was explicitly intended to promote healthy lifestyles and biodiversity. By contrast, few schemes addressed global environmental concerns such as climate change or resource depletion, nor the reduction of use and generation of sustainable energy.

Despite a clear ability to create coherent architectural realities, deep technical knowledge was rarely demonstrated through experimental work or technical analyses. An exception to this was one group who linked urban greening to carbon sequestration. Nevertheless, sustainable design tended to remain at a strategic level although was occasionally supported by rudimentary calculations.

A characteristic of the MArch was an emphasis on product often at the expense of process and experimentation. This was evident at formal pin-ups (crits) where even at interim stages there was a reluctance to show unfinished work, failed options, sketches or experiment with alternative presentation formats.

Students were assessed on their ability to transform sustainable knowledge into practical solutions through the vehicle of completed designs. This was reflected in crits that tended to focus on specific spatial manifestations of concepts (such as the creation of green infrastructure, parks and 'eco-transport' corridors) rather than questioning assumptions and knowledge about sustainable design. While there was clear evidence of independent scholarly study, students were given little credit for assimilating skills. Critics often lacked the specific knowledge to critique solutions on a technical level. For example, in one crit, carbon sequestration had to be explained to the critics.

#### *Student attitudes and experiences*

Students frequently demonstrated personal interest in sustainability. External experiences, especially

placements and previous degrees, were particularly influential in forming concrete ideas through engagement with design techniques. Two students had extended their design knowledge through becoming certified PassivHaus consultants in their own time. This contrasted dramatically with their student work in which they often exhibited apathy or disinterest. As one student stated:

*"In my household we're quite keen on measuring energy usage and are involved in community projects, that kind of stuff, whereas in practice I feel I don't consider it as much as you might expect to."* (Student 006)

This void between attitude and practice was, according to a number of students, because sustainable design was not considered particularly interesting in the context of the design studio nor was it *"the real agenda"* (student 008).

Working in a foreign context was clearly valued by students and exposed them to issues of sustainability that were cited in interviews and clearly addressed in design work. This, however, led to some disassociation with the issues encountered and there was no evidence of linking this knowledge back to their own personal experience.

#### *Culture and environment*

Many students described the University and the course as having a strong embedded sustainable agenda however this did not permeate through to the attitudes of educators and tutors, nor the underlying principles of the design studio.

*"Individual tutors didn't real necessarily talk about [sustainability]. Sometimes if you mentioned it but it would be nice if you had one."* (Student 005)

Students were isolated from the wider activities of researchers in the department and there was little interaction. For example, none of the tutors and critics involved in the course were practising academics. Most learning took place within the design studio environment involving the same set of individuals and tutors. There were no visits to exemplar sustainable buildings despite clear desire from a number of students.

*"I'm trying to think if we've been on any site trips to specifically sustainable places...until you see it in a project that's actually happened, rather than a masterplan that hasn't happened...that's really when it*

*hits home, and you realise this is actually achievable.”*  
(Student 004)

One student spoke of their desire to have a more ‘conference like’ atmosphere where professionals and experts from a wide range of fields come and share their knowledge, currently absent in the isolated design studio.

The MArch studio provided limited opportunity for peer interaction through shared studios. The studio was broken down into smaller rooms which meant it was only on crit days (approximately once a month) that the entire cohort was able to view one another’s work. One tutor expressed concern for the capacity of the space to facilitate “*sharing ideas*”. Moreover, crit spaces were in a separate building, isolated from the studios which limited the length of exposure to the work of others.

#### *Tutor interactions*

Teaching in the design studio took place through a number of tutor interactions in the form of crits and tutorials (desk based, one-to-one interactions).

The crit is a mainstay of the MArch studio occurring approximately every 4 weeks throughout each project. Dedicated crit spaces allowed students work to be pinned up simultaneously encouraging observation. The crit was used as a formative exercise (although in one case it provided 5% of the unit assessment). In most cases, crits were conducted by the tutorial staff or other members of the department familiar with the project. In the first semester, the same critics were present at each crit. The format generally lasted for approximately an hour with between fifteen minutes and thirty minutes of student presentation.

Crits were generally student led, that is they determined the length of their presentation (which often restricted the amount of time for feedback) and the subject matter of the crit was determined by the work they had chosen to produce and present. Environmental sustainability was only critiqued when students had chosen to present sustainable themes and in some crits, was only addressed in one discussion topic. Most discussion topics in crits were framed around spatial ideas. The crit was limited by both professional input and student experiences.

Some students suggested that sustainability was not considered interesting by either peers or critics:

*“[Critics] quite often want conversations about*

*design. I find students who really have impressive environmental strategies do that in a modest way that isn’t necessarily celebrated through their projects.”*

(Student 006)

Tutorials took place in the studio allowing the opportunity for students to observe or become involved in the teaching of peers. In the research period, all students were working in one of six groups who were being seen twice a week by two different architectural tutors. A specialist sustainability and environmental tutor offered tutorials on weekly basis. Tutors were seen as facilitators, rather than transmitters of knowledge. As the sustainability tutor put it:

*“I’ve got to draw things out if they ask. I’m there to help them and to sometimes point out questions that they should be answering themselves.”* (Tutor)

#### *The wider curriculum*

In the 1<sup>st</sup> year of the MArch, a series of lectures delivered the ‘*building blocks*’ of sustainability for future studio work. The course was delivered by a number of practitioners who each gave a lecture on their speciality. These included indoor environmental quality, sustainable urban drainage, bio-diversity, environmental impact assessment and the social implications of climate change. It emphasised the need for holistic sustainability however students understood its limitation in relation to their work in the design studio.

*“It was more the introduction and giving you a taste of how whole systems work but when you apply it to a project, you have to go a bit deeper and research it in a more personal way.”* (Student 005)

This was echoed by the unit convenor who suggested the course aimed to give a holistic understanding of sustainability concepts which could be utilised in subsequent student design studio projects. This sequential learning was also popular among students who often cited the desire to grasp abstract ideas before application in the studio.

*“I think we have the general understanding but whether that is enough to apply it in design. You know what you should have but it’s always how can we add this on or put this in and there are certain things that are not as integrated to begin with because you don’t know enough about it.”* (Student 003)

Conversely, the annexing of sustainability to a single module, its lack of relevance to the design studio

and its sequential teaching, meant student learning stopped short of a more complete and holistic learning cycle.

*"We had a lecturer last year who, through a series of lectures, was the one who taught us about designing as a system which was something which hadn't come up before and it was a broader look at environment rather than just looking at individual parts...but it's always more effective when it's integrated which is something we haven't had enough of really."* (Student 007)

The application of external lectures to design studio product remained unclear. Student projects demonstrated specific and sometimes critical approaches to sustainability, derived from their own research and knowledge application. Students focussed on their own projects to provide the impetus for abstract conceptualisation. Some praised lectures for giving them a holistic overview and exposure to specific precedents.

*"I found the lectures pretty good because they've good really nice precedents and you can analyse the precedent through the lectures which teach you how the city works."* (Student 005)

As a learning experience, lectures appeared to provide context and exposure to sustainable concepts yet, direct application to studio projects was absent.

### *Learning in the design studio*

Students accepted the necessity for a blended teaching approach including one to one tutorials, seminars and lectures. They exhibited differing preferences; some preferred general knowledge provision of didactic methods while others enjoyed the relevancy and practicality of tutorials despite concern this was too specific to be useful.

Students engaged in significant personal research. They were provided with the space for scholarly study in terms of personal work desks and have access to a large, well-stocked library and a variety of online databases. A number of students cited the importance of being equipped with the tools and training to adequately assess sustainable issues. There was, however, no space or time given for specialist skill acquisition to allow the testing of sustainable ideas, either digitally or physically, and assessments did not require generating experimental data on possible design solutions. Instead, engagement was at a strategic and conceptual level.

In crits and design reports, students were limited in their conception of architecture by the tools they were comfortable using. Drawing and model making led to specifically spatial solutions (arguably the domain of architecture) but often at the expense of sustainability. For example, all schemes presented large scale abstract masterplans with little consideration of resource use or construction implications.

Reflection on personal experiences is an essential part of the individual learning cycle<sup>39</sup> and these experiences were generated through multiple iterations of the design cycle and constitute design product. They were informed by wider collective and personal experiences. Reflective processes operated at four distinct scales in the MArch studio, on a personal level, on a peer level, through private tutorials and through public crits. The experience at each scale could be seen to provide individuals with the professional context required to think critically within their own learning cycle. Reflection on sustainable concepts however, was centred on solving problems rather than questioning assumptions. This was exemplified by the narrow focus on crits on solving organisational problems and strategic spatial coherence rather than questioning the underlying assumptions made by particular sustainable approaches.

## **6. Discussion**

An explicit sustainable agenda underpinned the initial master-planning project of the MArch design studio and projects exhibited strategies for tackling relevant issues. Despite this, there was a narrow range of issues identified, ideological stances and strategic approaches. Intended Learning Outcomes, considered as the '*point of failure*' for projects, misaligned with the explicit intentions of the assignments. Sustainable design was often perceived as being uninteresting or uninspiring in the context of the design studio by students, despite active engagement with environmental issues in their personal lives. Indeed, the implicit values of the design studio appeared to play a stronger role in validating knowledge than the explicit theming of the curriculum.

There was a lack of exposure to broad architectural experiences, exemplar projects and examples of sustainable practice. When students were exposed to unsustainable contexts, there was no attempt in the studio to translate these to local or personal



environments. Although the studio provided space for reflection and discussion, this was focussed around its self-generated product (i.e. the resultant output of the design process) through tutorials, crits and peer interactions. There was limited space for broader reflective practice on conceptual ideas or specific experiences through, for example, seminars. This was reinforced by the limited exposure to critical perspectives and the narrow focus of crits and tutorials which were defined by the student's work presented. As an ELT environment, procedural aspects were emphasised at the expense of a broad range of concrete experiences.

Crits were observed to be inadequate for the assessment or enhancement of deep-sustainability. Their visual emphasis, arbitrary structure, limited range of perspectives and narrow focus led to an environment which was self-referential, often unproductive and failed to question underlying individual and professional assumptions. A formal framework for structuring crits could provide a possible alternative mechanism.<sup>40</sup>

The design studio was perceived to be a predominantly student led environment, however allowing students to define their own learning experiences has been shown to cause the neglecting of sustainability.<sup>41</sup> This was corroborated in the results of this study and reflected in the particular focus of the group crits. Self-directed learning may also impact other areas of the curriculum<sup>42</sup> and could potentially be an unreliable method to develop particular skills or expertise<sup>43</sup>.

Abstract knowledge acquisition was generally directed by the requirements of design projects and there was a reliance on accepted skills and techniques to translate these to design proposals. Where students had acquired particular expertise external to the course or expressed particular personal concern for sustainable issues, this often did not filter into design project work. There was little impetus to develop processes beyond the accepted norms of the MArch design studio augmented by the emphasis on final product at the expense of genuine deep learning. The limited tools for design, time constraints and academic pressures limited the creation of innovative and critical knowledge.

The self-referential cycle of the design studio reinforced practice and knowledge confining it to a

limited sphere of understanding and demonstrating little evidence of double-loop learning.<sup>44</sup> Collective assumptions inhibited critical engagement with sustainability underpinned by social, institutional and professional conventions. This points towards a '*hidden curriculum*'<sup>45</sup>, generated by the isolation of the design studio from a wider social environment. The pedagogy of the MArch studio served to develop *reflection-in-action*,<sup>46</sup> the ability to think like an architect, yet this was confined by a narrow frame of reference. This limited the ability to address sustainable issues, challenge assumptions and create a wide variety of innovative proposals.

The pedagogy of the MArch design studio offered a model for the development of *reflection-in-action* and the establishment of critical processes however stopped short of allowing deep learning for environmental sustainability. It provided space for individual engagement with the four stages of Kolb's learning cycle through individual project led learning.<sup>47</sup> The nature of learning was often defined by student motivation but this in turn was informed by accepted institutional and professional practices. The MArch studio provided the illusion of independence but student process and learning were both consciously bound (through the requirements of assignments) and subliminally influenced (through exposure to a limited range of experiences and perspectives) by the context of study.<sup>48</sup>

## 7. Conclusion

This ethnographic study revealed both a lack of engagement from students and organisational indifference in the MArch design studio towards sustainability. This was despite students and staff expressing personal motivation for the subject. Moreover, the insular of the design studio, and its lack of exposure to eclectic perspectives developed a culture of competent professionals, with limited world views. *Reflection-in-action* was the primary mode of learning, shortcutting the questioning of prior knowledge and assumed professional practices. Explicit meta-reflective activities (notably the crit and tutorials) failed to step beyond the cultural confines of the profession or the design studio and compounded the prevalence of *single-loop* learning.

The studio presented a highly refined learning process heavily weighted toward active

experimentation and reflection often at the expense of wider experiences or broad knowledge-based learning. Despite this it was seen as an effective means to develop professional competencies and ways of thinking.

Designing for sustainability requires new ways of thinking, often stepping beyond the accepted bounds of a particular field. In the MArch studio, organisational and cultural change is essential to develop truly deep learning for sustainability. A community of practice may offer an opportunity to expand accepted modes of thinking and provide space for holistic experiential learning and *reflection-on-action* in the design studio.

A CoP may offer an opportunity to develop a learning space beyond the traditional design studio which would allow critical analysis of assumed knowledge and the expression of unconventional and culturally challenging ideas. In the context of sustainability, this could be used to encourage collaboration, interdisciplinary knowledge sharing, a '*research-based approach*' and above all a critical reflective approach to sustainability.<sup>49</sup>

Arguably, the MArch design studio is a CoP. The community is formed through interrelations that are developed by working in a shared environment (the design studio). Practice emerges through this interaction and knowledge shared through direct and indirect interaction with peers. Yet the domain of the design studio is loose and often ill-defined. Although assignments form a rough guideline, students are encouraged to develop their own project briefs and explore their own design agendas, often undermining the formation of strong communities of practice.

Without pedagogic and organisational change, a fledgling CoP must offer experiences beyond the studio to share and develop knowledge. This may be through meetings which promote formal interaction of members and informal interactions within the design studio. Social media platforms may offer opportunities for engagement. Meetings of a CoP must support collaborative and independent learning and have a student led focus. Experts outside of the community could contribute to knowledge creation.

The results suggest that there is sufficient motivation in the MArch studio to form a community brought together through a common domain to develop a sustainable practice. The creation of a sustainable design CoP has not yet been tested in the design studio.

This provides an opportunity for further research which will be conducted between 2017 and 2019.

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# Collaborative urban studio. Teaching collective problem solving via live projects.

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## ABSTRACT

The requirements of contemporary architectural and urban design practice places a growing importance on the ability to generate new solutions to complex design challenges. Such an approach is particularly relevant in the context of contemporary urban projects in need of urban innovation and socially engaged practice, i.e. urban regeneration or street quality improvement projects. Meaningful involvement in such topics requires a high degree of interoperability between the designers and other experts, community collaboration as well as internal team work. Such collective work methodologies are also employed by companies working on creative projects, such as engineering consultancies<sup>1</sup>.

In the paper we summarise the Authors' experience of developing, testing and running 'collaborative urban studio' – courses for the first year Master level architecture students at Gdansk University of Technology, which aim to train future architects in working within the collective creative framework. The course is based on three underpinning principles: (1) there is no obvious solution to a given task, as the topic is usually a complex, non-standard project and its scale is comparable with the professional commissions; (2) the course topic is based on a real-life case with a real client; (3) students are organised to work towards a jointly developed proposal. In order to meet this objective, the student teams need to organise their work through establishing their own management system, which must allow for continuous collaboration and mutual support.

The success of 'collaborative urban studio' is based on setting up the components of a creative environment – room for asking and receiving help from colleagues, as well as pooling and exchanging own knowledge through team-based 'reflective reframing'<sup>2</sup>. Developing a real project helps to motivate students to collaborate closely, owing to the perception of agency. In the text, we detail the rationale for establishing a studio as well we share the observations of our work. The Gdansk project is currently one of the first, sustained efforts in Poland to run 'live studio' continuously at the faculty of architecture. Despite the organisational challenges, the selected formula helps to promote the achievements of collective architectural work in engaging with complex, urban projects.

**KEYWORDS** collective creativity, architectural education, action learning, pedagogy, collective urban studio

'A collaborative studio' – a course, described in this paper, was organised in response to the need for a better preparation of the architectural students to the demands of their future work in the creative

environments.

In the paper, we focus on how the selected method of studio work helps to increase the capacity to engage in the creative collaboration by future architects.

We begin with the explanation of the relationship between the proposed teaching methodology and broader theoretical underpinnings on collaboration and innovation. We explore the parallels between our work and the 'live project' model that was established in the Western architectural pedagogical theory and practice of Live Projects<sup>3</sup>. We describe core elements of the course and explain how they help facilitate such teaching objectives as building the capacity to cooperate and innovate. Next, we elaborate on two components:

1. The organisation of the teamwork and its didactic role;
2. The role of the 'live' project in the course work.

In the concluding part we assess the project and its results, based on the observations and reviews of the studio work. We highlight the advantages of the selected approach as well as the observed drawbacks of these teaching methods.



Figure 1. 2015 Studio – workshops at the university (Monika Arczynska)

### Theory - the role of 'creative collaboration' from the perspective of the architectural practice

Increased research interest in the role of creativity and the role of teamwork<sup>4</sup> reflect a broader change of attitudes towards the concepts of collective problem solving and creation of the intellectual value in the creative professions. The creativity here is understood broadly as an ability to generate novel ideas, with the potential for implementation<sup>5</sup>. The ability to innovate is considered as a prerequisite for professional success of the design companies, especially those operating in the fields of engineering, management or research. In architecture, creativity can be considered as one of the core competences apart from technical knowledge.

The organisational research<sup>6</sup> emphasises the superiority of the team-based solution finding over individual work. Hardagon, describing the results of his research, coined the term of 'collective creativity' as a description of a joint and mutually supportive work of the individuals towards finding answers to the design problems. In Hardagon's model creativity was considered as an ability to apply knowledge gained through previous experience to solve new challenges, done mostly through meaningful interaction of group members. The proposed model entailed four components, occurring in a process of collective creation<sup>7</sup>: 1) a possibility to ask for help, 2) a possibility to give help, 3) an opportunity to do 'reflective reframing', i.e. pooling different knowledge, skills and past experiences of the team during joint work in order to solve current challenge and finally 4) reinforcing the organisational culture, which promotes team work. It was a departure from the previous findings, which focused mostly on the role of individual achievement and predispositions to innovate. Hardagon's model, especially its focus on the role of social condition of meaningful interaction, is often compared to the work on social psychology of creativity by Amabile<sup>8</sup>. She highlighted three aspects of individual predispositions towards innovation and its relationship with the social environment. They comprised domain-relevant skills (professional skills), creativity-relevant process (cognitive style and personality characteristics that were conducive to independent thinking, taking new perspectives and risk-taking) and task motivation<sup>9</sup>. Amabile's theory highlights the role of the social environment, which can either stimulate or stem individual traits. The ideal environment for the development of new ideas fulfils the following requirements: it positively motivates to work, includes work teams that are collaborative, diverse and idea-focused, provides higher management and supervisors who support the innovation and clearly articulate their vision, gives safe space to experiment and finally cultivates a culture of generating new ideas as well as sharing them openly within the organisation.

All of these findings provide arguments for creating space for team-based innovation within the educational system of the school of architecture. The core concepts of collaborative innovation are consistent with the specificity of architectural and urban design professions, which are collaborative



in their nature. Practicing architects need to be able to fit and actively participate in a team-work environment. More complex projects, such as urban regeneration or public space design, demand ability to tackle the tasks by collaborative problem solving due to their interdisciplinary and non-standard nature. It also demands considering diverse professional perspectives, as well as the needs and voices of the stakeholders as ethical and practical imperative.

### Collaborative 'live studios' - similar curricula

The discussions in the world of architectural academia<sup>10</sup> have been mirrored by the collaborative teaching techniques in STEM (Science, Technology, Engineering, Mathematics), led by US academics in the mid-90s<sup>11</sup>. Their results have been implemented and have influenced general pedagogical practice<sup>12</sup>. Johnson's methodologies utilised the elements of the hand-on 'active learning' and created the teaching environment, which allows to put Hargadon's concepts in the perspective of teaching in higher education.

In the architectural debate the critics called for break with the self-referential and detached nature of the exclusively academia-based approach<sup>13</sup> and move towards the 'architecture of engagement'<sup>14</sup>. Therefore, one of the shared objectives for 'live studio' projects is the ambition to provide alternatives to the predominant model of studio-based architectural education. Consequently, one of the core ideas of such studio is the opportunity of meaningful involvement with the particular contexts, people and places, thus providing a 'situated learning' environment for the students<sup>15</sup>. Since the early experiments in UK and US, there have been a number of live projects (at least 200 according to the Live Project Network<sup>16</sup>). Theories on the topic highlighted other aspects defining 'live studios'<sup>17</sup>. The real, or highly realistic projects, bring necessary depth to the learning experience as well as provide unpredictability that aims to enrich it. Live projects often challenge established teacher-student relationships by expanding the inner dynamic of a student group<sup>18</sup>, rearranging the power relationships between these two groups or adding participation to the course<sup>19</sup>, which brings them closer to the idea of radical pedagogy<sup>20</sup>. The other discussed aspect is the ethical dimension of such projects. In some of the studio examples, such as the Rural Studio, the educational process is not meant to increase the

efficiency of the future graduates but to use it as a transformative tool. The Rural Studio actions can be considered as an example of shaping the ethical attitudes and the 'moral sense' of the students<sup>21</sup> nurtured through serving the local community in need. The approach is also grounded in the concepts of humanitarian architecture<sup>22</sup>, similar to MIT CoLab initiatives. In 'live studio' this would be done either via more traditional academic engagement, more practical design or by testing new, often radical theories<sup>23</sup>.



Figure 2. 2015 Studio – final presentation for the local community and authorities (Monika Arczynska)

In Gdansk case, at the time of the preparation of the studio, 'live projects' methodology had already been established in the Western academic practice and theory, with grounding ideas and principles being described and discussed in reports<sup>24</sup>, academic research<sup>25</sup> and manifestoes<sup>26</sup>. Still, the concept was not widely disseminated or established in the Polish academic context. However, at least three courses have been conducted since 2012 by Professor Krzysztof Nawrotek, who engaged with Polish cities with his UK-based critical practice studio. A research-learning studio, akin to work conducted by MIT Media Lab, was also organised by Slawomir Ledwon from Gdansk University of Technology, who imported this educational approach to his home university. Such knowledge transfers helped to build initial concepts of our course. However, our experience of extracurricular education through tutoring at student workshops<sup>27</sup> as well as our perspective of the teacher-practitioner, particularly the commercial work in large design teams, ultimately informed the concept of the course. The testing of the course formula also coincided with a country-wide debate on refreshing the architectural

education<sup>28</sup>, including the discussion on the need to substantially refresh the teaching curricula. Considering these pedagogical and practical factors we decided to highlight and expand three key aspects of the studio: enabling group dynamics and team management to work, moving to the real-life context and allow for easy replicability within educational context.

### **The idea of the collaborative urban studio ‘Problem Areas’ at Gdansk University of Technology**

The concept of the ‘collaborative studio’ is based on the idea of organising a temporary work structure that allows for collective creativity and supports team-based work ethics and engagement with the world ‘outside academia’. Our course is structured to allow its completion within the timeframe of one semester – 15 weeks of the English-speaking course of the first year Master level architecture students. At the Faculty of Architecture at Gdansk University of Technology (GUT) this studio is available for the international students, including the Erasmus students (exchange students from EU and EMEA region). Usually, the studio engages a group of approx. 30-35 students, with the maximum of 45 students in 2017.

The initial idea to experiment with the management structure was derived from the Authors’ past experiences as tutors at national and international architectural and planning workshops<sup>29</sup>. The organisational structure, including establishing a special coordination team, was inspired by the tutors’ professional experience in the design of large scale architectural projects, involving a number of consultants and close collaboration within the architectural office. Three rounds of the course have been run in the years 2015-2017, with the topics and results as follows:

- Stare Polesie, Lodz, concept for the redevelopment of the 90ha of the inner city quarter; result: toolkit of potential actions including i.e. urban design, social actions, urban marketing;
- Gdansk, development of the main public space (pedestrian street and square) in the historic centre; result: design guidelines for the architectural competition;
- Witomino, Gdynia, modernist housing district regeneration through public space improvements; result: design guidelines for the architectural

competition.

Methodologically, the core concept is based on three major fixed components:

1. The topic of the studio is a complex urban project, requiring a non-standard approach from the participants. Examples of the coursework include a regeneration strategy for an inner city district or concepts for the development of the public spaces. The challenges require a critical application of various planning and design methods in order to deliver the solution.
2. The studio is run in collaboration with the real client, usually, due to the character of the work involved, a public one: a local authority, a public institution or an NGO. It involves collaboration with the client and local community during the process.
3. All participants work jointly on a single but complex project. They need to organise their work and build a project management structure. The participants choose their preferred fields and roles, selecting from the coordinating role or the production. The professors act as mentors to the design team. Professional help, if needed, is provided by the external consultants (sociologists, local activists etc.).

In terms of the scope and final deliverables, the studio aims to recreate the realistic conditions and timeframes of the urban design projects. The students work on a proposal that will have a realistic impact on future decisions of the client. The topic and scope of the project is organised to engage the participants fully and encourage their mutual collaboration, through active learning akin of Johnsons’ concepts of ‘collaborative base’<sup>30</sup>.

The typical schedule of the course comprises the four stages:

1. Team and capacity building, selection of the team coordinators;
2. Building the understanding of the context and the needs of the local community by implementing different methods of inquiry (social and behavioural research methods, public participation events aimed at on-site information sourcing, establishing local contacts);
3. Development of the scenarios, scenario testing by the use of mock-ups and prototypes and, if possible, a public consultation review;
4. Preparation of the final proposal based on the selected scenario, joint production of the report and

presentation of the results to the client and members of the public.

In terms of the actual design methodology the course utilises a blend of design techniques. The core is comparable with the models of participatory studio models by Sanoff<sup>31</sup>. The analysis stage draws from the participatory design concepts<sup>32</sup> and behavioural observations<sup>33</sup>, while design utilises models of decision making borrowed from strategic planning such as scenario making<sup>34</sup> and participatory urban planning practice in addition to architectural design. The testing may include simple methods, such as public consultation, to more advanced, such as urban prototyping. All of the above mentioned methods demand successful group-based interactions. Decision making stage usually includes deliberation and use of heuristics.

The given timeframe, fifteen weeks, allows for the development of the necessary team-work capacity, group relationships and interdependencies, required for the teaching effect to take place. However, it proves insufficient for in-depth research and final production. It would be recommended to extend the studio to two semesters. The obligatory nature of the course distinguishes the studio from other initiatives, which utilise more voluntary engagement of the students, such as workshops, summer schools, student club activities or internships.



Figure 3. 2016 Studio – public consultation with the stakeholders and residents (Monika Arczynska)

### Role of team work during the studio

The general concept of the ‘collaborative urban studio’ is founded on the same principles as Hardagon’s collective creativity concept and Johnson’s cooperative learning<sup>35</sup>. The distinguishing factor, which stems

from the size of the classes and the nature of the architectural work, is the aspect of self-organisation and team management.

In the ‘collaborative urban studio’ the participants are divided into smaller teams. This allows for subdivision of tasks, as well as establishes the interdependencies between the working groups. From the content point of view, the subdivision creates the architectural equivalent of Johnson’s ‘jigsaw class’<sup>36</sup>, where different teams contribute to complementing elements of the joint project. The teams will not succeed if one of the elements fails.

The course utilises the management structure which resembles real-life architectural office environment with horizontal organisation. Each of the teams appoints a coordinator, who acts as a manager to the team and reports back to other coordinators and tutors. The use of larger, self-managed structure allows for a higher degree of autonomy and internal self-organisation. During every studio the work of the whole team is being ‘stitched together’ by a separate, dedicated management group, called ‘the glue team’. Its sole objective is to supervise the development of the whole project, filling out the gaps in the proposal and ensuring its overall consistency. The glue team is recruited from the students willing to develop their management skills.

The division of the class into task groups depends on the scope of the project. Different organisation models have been tested. An example of more flexible team arrangement is as follows (regeneration of Witomino estate public space studio run in 2017):

1. social action and research, public participation team;
2. architectural design;
3. ‘glue team’ – coordination.

In other cases teams can be subdivided for the duration of the analytical stage and join again for the final design and the final production phase. At the beginning of the course the students are asked to fill out the questionnaires on the team preferences, based on their skills and expectations. Also, the students are asked if they wish (or whether they are ready, if needed) to take on the management roles in the project or if they prefer to remain in ‘production roles’.

One of the important aspects is the ability to retain flexibility and to be able to switch assigned roles during the moments of the whole group mobilisation.

Such moments occur when all of the class members need to cover a major event requiring ‘all hands on deck’ approach. Usually these are the tasks requiring significant mobilisation of class resources, such as site observations and interviews at the early stages, public consultation or interventions in public spaces, such as site prototyping. The other instances are larger in-class workshops or ideas generating sessions, which are used to boost joint creativity and problem solving, as in real-life creative companies<sup>37</sup>. Finally, flexibility allows for necessary redundancy that is critical in such a complex project.

Since the studio is run in the international environment, foreign students are integrated into the work of the particular teams. The use of commonly understood language (in our context, English) is obligatory for students and teachers. Selecting local topics requires additional work to help foreign students understand the contextual constraints. Site visits and partnering with local participants is needed as well as clear assignment of the tasks. On the other hand, team work with international participants helps significantly in ‘reflective reframing’<sup>38</sup> of the local issues with their own educational and professional perspectives, brought by the visiting students.

Work with larger groups brings its own challenges to the tutors, mostly concerning keeping up the motivation to work, ensuring that all of the users are evenly engaged and dealing with the ‘slackers’<sup>39</sup>. Use of management techniques greatly helps to ensure the individual accountability of the participants. Final grading is done upon the completion of the project. Students are subject to the ‘blind’ 360-degree personal appraisal by their collaborating peers<sup>40</sup> and the reviews of the grades by their coordinators with a final decision by the professors. The use of such techniques allows for balancing between the need to achieve individual accountability and the final effect, which is based on the overall quality of the work.

### **The role of the ‘live’ project and real-life client**

The use of ‘live project’ methodology distinguishes ‘collaborative urban studio’ from a standard architectural class. In the context of our studio it means that the students work on a real project, which is based on actual needs expressed by the client, usually a public institution or a non-governmental organisation. The chosen topics require an innovative approach

and cooperation with residents in reaching the solutions. The results of the work involve preparation of the design guidelines: a briefing document for the architectural competition or an action plan for the local community.

From a didactic perspective, such methodology is closer to the idea of professional internships and the concepts of work of teachers-practitioners, bridging the work and academia<sup>41</sup> rather than the standard academic curriculum. A real project gives an opportunity to cooperate with the real stakeholders, usually from the position of a partnership with young practitioners. Such approach is a major departure from a standard academic situation where students are considered as learners and acquire their knowledge in a classroom. The participants have to work on real data, with real support of the consultants and meet the expectations of the real residents. Therefore students take part in public consultations, apply innovative methods such as ‘urban prototypes’ (use of on-site mock-ups) as well as organise workshops with residents.

The use of such complex project has a number of benefits. Firstly, it brings motivation to innovate. The challenge for the team is to untangle the project conditions and propose a solution. Still, as in case of the real projects, the solution is undetermined at the beginning and students must reach one within the duration of a semester. If the results are accepted and implemented by the client, it brings the notion of agency and real life effect that also boosts the collective engagement. Here, the public consultations and team workshops have similar effect.

One of the more important effects of the ‘out of the classroom’ teaching is exposing future architects to the realities of work with the local communities or the public clients. The use of real-life exercise and integration of public consultation elements allows future designers to build practical understanding of the design dialogue. Students gain a first-hand experience of negotiating various and often conflicting needs of the communities, meeting, discussing and receiving feedback on their work. The effects could be observed towards the end of the course. On the other hand, the long-term effect would be the increase of the understanding and empathy towards the end-users of the students’ proposals. This brings another teaching effect concerning the ethical dimension of architects’



work – developing social responsibility.

The use of real-life cases brings its own set of challenges. Such assignments are considered as high difficulty projects for the students and expose them to higher stress due to time, pace and scope involved. They require logistics and coordination between university and the client in advance of the class, during the work and after its completion (publishing, spin-off activities). The class requires additional work from the tutors in terms of time allotted as well as professional expertise. The studio cannot succeed without additional capacity-building via specialised, dedicated consultations. Finally, the use of live project demands careful ethical considerations<sup>42</sup>, such as pertinent selection of the potential topic, managing the responsibilities and the effects of the design decisions including limitations of the student work and potential liabilities. Also the issues of the use of intellectual property of the participants, for example the decision whether to offer the results of the work as open license project, need to be solved.

On the other hand, a successful studio brings potential for mutually beneficial engagement between the local community and the students, as well as more lasting legacy projects.



Figure 4. 2016 Studio – users' feedback during prototyping (Monika Arczynska)

### Differences with the other 'live studio' concepts and assessment of the results

The differences with earlier concepts in studio architectural education, such as the Beaux-Arts Academy and Bauhaus approaches<sup>43</sup>, lies with key teaching objectives - emphasis on the process and team-work in an 'ad-hoc' design office and focus on urban issues. This style of work reminds an

architectural workshop or a 'charrette', but spreads over fifteen weeks. In the traditional approaches the solutions are usually developed by small, project-based teams focused on the design delivery. Such choice limits the burden of advanced team management for the participants, which is required in 'collaborative urban studio'. The use of the live project is another key difference. In the traditional approach, even if the projects are based on real sites, the academic teacher acts in lieu of the client and the public. In 'collaborative urban studio' participants have to organise together to meet real-life challenge while their access to knowledge is decentralised. The role of the academic teacher in this model is the one of a mentor – a guide, helper and supervisor – rather than a 'master', a sole knowledge holder and ultimate judge of the students' performance. Therefore 'collaborative urban studio' blurs the borders between school environment and the industry practice, which places it closer to the models of teaching-practice.

Major differences between our approach and other 'live studios', such as Live Project initiative<sup>44</sup>, are the use of large scale teams, which must cooperate within their given tasks on a single major project as well as the larger scope of the proposed work. The studio places a lesser focus on preparing a truly transformative project as compared to Prof. Nawrotek's Plymouth studio. His work places much stronger emphasis on the theoretical grounding of the research and the objective of his work at the outset has a progressive and transformative character<sup>45</sup>.

The initial review of the project, based on the post-course reviews by the students (questionnaires, individual discussions), peer reviews and own observations reveal the following benefits and risks of such approach in the context of its objective, teaching collaboration.

#### Key benefits:

Combination of an academic course and a real urban project, packaged as a semester course with high potential for replicability (as in Sheffield Live Projects);

Creation of the environment which boosts collaborative problem-solving via team-work and deliberation;

Accelerated education results thanks to 'hands on' experience and active learning methods embedded within the course structure;

Exposure to the concepts of public participation



and sociological methods of observation which help in problem solving;

Good reception of the course by the participants and high motivation for work;

Good potential for continuation of work with follow-up, 'legacy' projects for the students involved and building a lasting relationship with the community;

The studio's format supports students in experimenting with their own capacity limits and different team positions such as management and production roles or work within different task groups. Since there is always a possibility to change the role during the course, the risk of remaining in an unwanted position is reduced to minimum.

Drawbacks and risks:

The course demands high involvement of the tutors both in terms of time allocated and required qualifications of the personnel;

Risk of the 'project creep' (i.e. unplanned growth of workload, for example due to poor quality of final student work) for the teachers, who must act as a final 'quality control' and a 'safety net' for the team;

The workload can exceed the timeframe of the standard studio (at Gdansk University of Technology conditions standard studio takes 45 hours per semester);

Uneven educational results for the 'coordinators' and 'producers': the 'coordinators' receive additional training in managing the project;

Risks of poor team selection may hinder the educational and design process, ample time for careful team building is needed as well as regular team 'health checks';

High pressure is put on students due to complexity and severity of the task.

It must be stressed that the studio represents a 'high stress, high reward' learning environment. To be successful it requires significant planning in advance, use of team building and management skills and communication with the design teams. Nonetheless, the successful project allows for good combination of the factors, which contribute to developing the collaborative skills. The higher entry requirements are one of the reasons why the course is taught to the Master level students.



Figure 5. 2017 Studio – prototyping in public space (Monika Arczynska)

## Conclusions

'Collaborative urban studio' is an example of the project that aims to resemble the real-life work environment of the architects and urban designers. Its core elements are built in line with the findings of the organisational, psychological and educational theories of collective creativity and cooperation. Our approach is in a way similar to earlier 'live studios' run at Western universities, which confirms that many of the principles are indeed easily transferable between the Western and Polish context.

One of the still unresolved questions is the replicability of 'live studio'. A broader question is to what extent such studio can be standardised and placed within the academic curriculum or should it be considered a special, unique project? What elements have to remain in place for it to act as 'live studio'? We potentially see two risks here. Firstly, it places a higher burden on teachers as it at least basic managerial and mentoring skills from the tutors. They have to be able to coordinate the course, be aware of the dynamics of the group relations and liaise with the partners outside academia. In case of larger scale projects and other academic tasks at hand, the pressure placed on a tutor is extremely high. Secondly, the studio requires sourcing internal and external resources to be applied successfully. Finally, social responsibility factor of the course – work with the community on truly transformative projects – requires dedication and understanding from a leading teacher.

Another emerging question is to what extent such formula requires a large complex proposal to be developed to achieve the didactic effect. The realistic

project helps to motivate students but at the same time its overwhelming nature may become disincentive in the architectural curriculum. Its application can be limited for undergraduate students. The project places high burden on the students, leaving them out of their academic 'safety zone'. However, our results show that the selection of the complex real-life project is crucial for keeping the teams motivated. It gives a sense of responsibility and agency, as well as helps to keep the morale high.

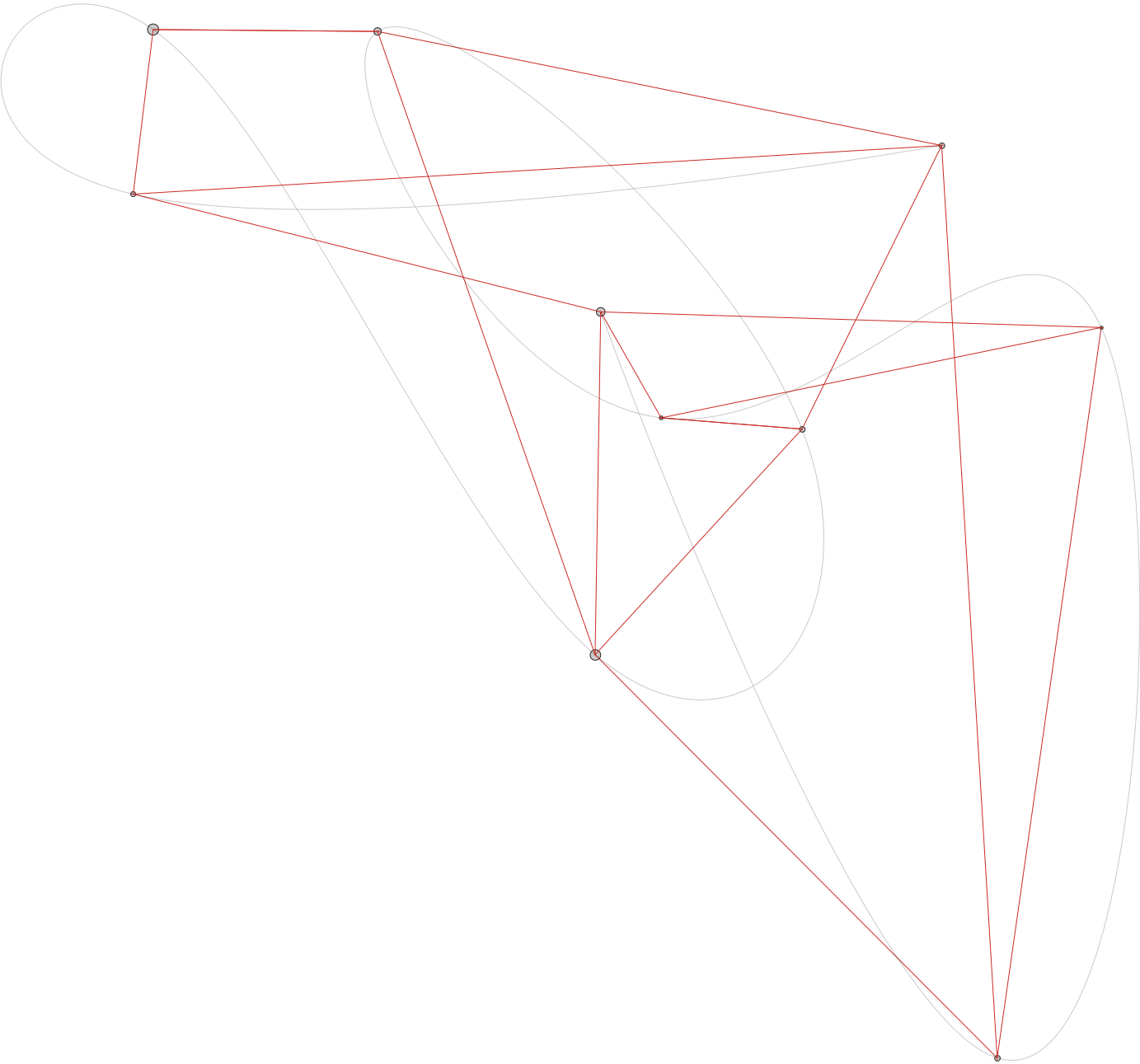
In our opinion, one of the main achievements of the studio is a success in creating a base for building a real, professional collaboration of students and outside partners within the academic context. The studio does not put pressure on developing design skills, but rather on understanding the design as a multidisciplinary process, in which each participant and each component matters. From our point of view, this is a major benefit of our approach and its potential standardisation - it gives the ability for all of our students to test their skills in a large group work exercise and to find their own way in pursuing its completion.

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# 1.5 PERFORMANCE



# Events // A Decade of Student Led Collaborative Projects

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## ABSTRACT

Now in its 10th year, the Manchester School of Architecture's annual Events programme has completed over 200 diverse live projects across the city and beyond. Collaboration drives each project's delivery, content and resolution. Now an annual focus, this fuels the programme's success by requiring students to step outside the protected environment of the School to engage in outreach projects. In this respect Events sits between academia and professional practice providing students with different design-team experiences as they progress through their architectural education.

For two weeks each year approximately 400 students from three different levels of architectural education unite through 20 simultaneous projects to work with local and international communities from beyond academia such as architectural practices, arts organisations and research groups. Working with a collaborator, the brief for each Event is prepared by groups of three or four students in the postgraduate Master of Architecture course and delivered to groups of approximately 16 undergraduate students from the BA (Hons) course in Architecture Years 01 and 02. Activities during Events are researched, designed, planned and taught by postgraduate (Year 05) students who are then assessed on their project management and delivery.

Although the programme's delivery has evolved over its lifespan, each year it has consistently provided a 'seed bed': an opportunity to explore, exchange and promote ideas across trans-disciplinary networks. Whilst doing so, this creates an opportunity for students to foster new contacts as well as demonstrate professionalism and ability to manage creative enterprises from conception to completion.

Through a series of case studies, this paper will introduce Events and outline how the School coordinates and supports multiple student-led collaborative projects on an annual basis and at a mass scale. A pedagogic evaluation will be presented focusing on student experience, diversity, problem-based learning and reflective practice. This will be demonstrated through a discussion of the programme's evolution over ten years through three distinct phases and will illustrate the transition from staff to student-led activities; the encouragement of student reflection through digital media and the students' selection of collaborators with an emphasis on employability and job running.

**KEYWORDS** student-led projects, student experience, collaboration, problem-based learning



The Manchester School of Architecture's highly successful Events programme unites students from the undergraduate (BA(Hons) Year 01 and 02) and the postgraduate (MArch Year 05) courses through student-led projects. Concluding as collaborative outreach outputs located across the city and beyond, the programme requires students to step outside the School environment to engage and work with communities, practitioners, art institutions and research organisations. The programme offers a rich student experience due to its learning style, its focus on problem-based learning (PBL) and opportunities for reflective practice.

Events is launched and introduced at the beginning of each academic year to postgraduate students who then develop their projects in anticipation of an intense two-week period of Events activities during the third term. The format of the programme aligns with Kolb's (1984) learning theory cycle that encompasses 'abstract conceptualisation' (Events ideas distilled into a promotional poster), 'active experimentation' (brief development and planning), 'concrete experience' (exploration of an idea during Events weeks) and 'reflective observation' (in-action and on-action via the film and blog).<sup>1</sup>

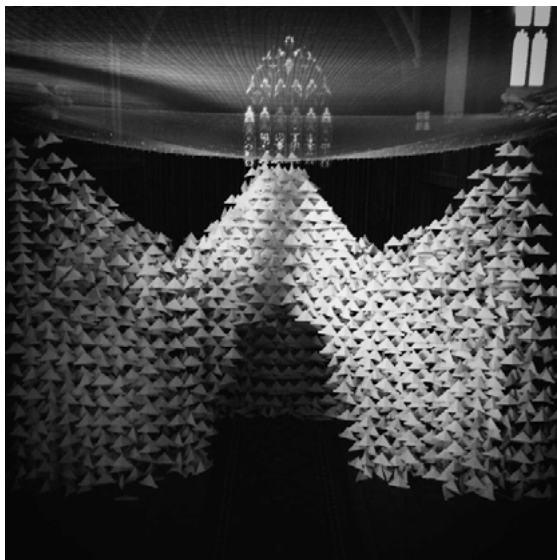


Figure 1. Making Headway, Hat Works Hat Museum, Events 2014 (Laura Sanderson).

Assessment is continuous and is based on postgraduates' conduct and their critical reflection during the co-ordination and delivery of their project. Students' observations and accounts are

communicated via a short film and also a group blog. The blog has a dual role as it is also used to record and disseminate resource material to students. Initial tasks include forming small groups to work in, which can either be linked to a studio atelier or, to bring together different ideas from across the School, cross-atelier. Students then decide on their architectural agenda, which is subsequently enhanced by considering who their collaborator will be, the craft or production methods required, where the Event should take place and the nature of the final output, which usually range from temporary and permanent built structures to artefacts, exhibitions, design work and legislation. This process and its conclusions are recorded on the blog and disseminated to the undergraduates through the promotional poster. Risk assessments and session plans are developed during the planning stage and again these are posted on the blog prior to the Events weeks commencing. Based on this information and the poster, the undergraduate students sign up to an Event by producing an illustrated postcard to express their interest or potential contribution.

This paper is split into three parts – first, a pedagogic evaluation is provided; second, evolution of the programme will be outlined and third, a number of case studies will demonstrate the legacy of the programme.

### Pedagogic Evaluation

Events provides a rich student-centred learning experience because, by simulating practice, it combines problem-based learning, collaborative active learning and reflection. Comprehensively defined as 'a total education strategy based on the principal of using real world problems as a starting point for the acquisition and integration of knowledge',<sup>2</sup> Problem Based Learning or PBL has roots in medical training and is characterised by applying knowledge to practically resolve problems.<sup>3</sup> Over the last three decades the main characteristics in implementing and designing PBL programmes for Higher Education have been extensively researched and can be broadly summarised as:

- Learners explore open ended real world problems as the starting point of learning.
- Learners engage in self-directed learning, including planning, implementing and evaluating their overall learning process.

- Learners work cooperatively in small groups to support each other to achieve the learning outcomes.
- Teachers assume the role of facilitators and co learners.
- Learning outcomes emphasise not only content knowledge but also process skills and learning attitudes.<sup>4</sup>

PBL is valuable as it contributes to employability and life-long learning skills such as communication and interaction skills, research skills and the ability to handle problems and work in groups,<sup>5</sup> which begin to set the context for a lifetime of formal and informal continued professional development. This is particularly relevant in architectural education as professional practice demands design skills alongside the ability to analyse, organise, collaborate and communicate ideas.

In the Events programme students are required to set their own problem or agenda and this is usually explored through learning-by-doing or active learning. This is organised through a three-tier mentoring system that relies on contributions and debate by the collaborator or client, the postgraduates and the undergraduates. By running a short project, often sited off-campus, that responds to a live brief, all students work autonomously and collaboratively as part of a design team and are able to pro-actively take full but shared responsibility and ownership of the project, which in turn increases motivation and promotes deep learning. High-level transferrable skills, essential for life-long learning and employment, are nurtured through self and group critical evaluation. Accumulation of dynamic knowledge is encouraged through opportunities to hypothesise, test strategies and evaluate conclusions whilst gaining an in depth critical and practical understanding of a subject. Through the programme, students learn how to learn by building new knowledge and skills and this demonstrates compliance with constructivist learning theories.<sup>6</sup> These approaches to study may further evolve on an individual basis in later years of architectural education and the content encountered during Events may possibly inform atelier choices and new personal lines of enquires.

Learning-by-doing and problem based learning is undertaken collectively and collaboratively as group work. It is usual for each team to work

together in studio (or an alternative location) even if tasks are distributed across smaller sub-groups and later synthesised. The studio becomes a forum for debate and enables the opportunity for students to network, reinforcing connections vertically through the school. This in turn increases engagement and motivation. The blog ensures transparency within and across the groups, allowing all participating students to witness projects unfold and in some cases instil a positive competitive atmosphere of dynamic learning, either within or across groups, where issues and agendas become a shared focus.

Opportunities for reflection, both in-action and on-action, occur during all stages. Postgraduates capture their reflection of the undergraduates' interpretation and testing of the agenda through the blog and film and, after Events have concluded, undergraduates retrospectively capture their impressions through a poster which must respond to the themes of agenda, craft and production.



Figure 2. Palletable Playground, Events 2016 (Victoria Jolley).

Prior to the Events weeks the blog plays a critical role in encouraging reflective practice. Having self-selected their task and criteria, postgraduates prepare their brief and session plans by making appropriate contacts and retrieving and researching relevant theories and techniques that may be needed later by the undergraduates to resolve the challenge. Groups use the blog to store relevant knowledge that can be easily accessed by the undergraduates whilst the project is still in inception. When the project is

delivered by postgraduates during Events weeks this allows the undergraduates, who are readily prepared and familiar with the agenda and resources to quickly, effectively and experimentally test the knowledge through learning-by-doing and, by transferring declarative knowledge to functioning understanding of an Event agenda, this culminates as deep learning. The unravelling and realisation of the project is captured through multiple daily posts, often illustrated by numerous maquettes, design options and models and this process, as valuable as the finished output, demonstrates the students' engagement in discussions and reviews as well as individual and group reflection <sup>7</sup>.

In the last year (2016-2017) film has become a mandatory assessment due to its potential to reinforce and reiterate thinking and problem solving skills. The consideration of the film's narrative by the group enables students to again demonstrate research, collaborative working, problem solving, organisation and technological capabilities. This supports theories<sup>8</sup> that promote film as a means to increase student engagement through motivation, quality learning experience, autonomy, team working and communication skills and it is possible that, as Events occurs in the third term, the films may improve student retention by enhancing student experience. The Events weeks concluded with a cinema screening at a former picture house followed by interim feedback and informal debate prior to the postgraduates finalising the film and the undergraduates submitting their poster.

### Programme Evolution

Over the programme's ten-year life span, three members of staff have co-ordinated Events (Helen Aston 2008-2011, Laura Sanderson 2012-2014 and Victoria Jolley 2015-2017). This evolution has led to a series of important modifications and developments. Active reflection from staff and students at the end of each academic year has allowed the programme to evolve, both in terms of its pedagogy and also its ambition, learning from the successes and failures of previous projects. In short three distinct developments have been 1) the movement from a staff to student-led programme in 2009, 2) the requirement for students to select their own collaborators with an emphasis on employability and job running in 2012 and finally 3) the use of digital media for student reflection in 2015.

When setting a curricular project brief or problem there has been an inclination to set a simulated setting which allows students to show off the full range of drafting and design skills but not necessarily the additional skills required to deal with a real life problem. John Bishop touched upon this in *The Architecture in the Community Project* (1997) where he stated:

*"Much design education is very remote and esoteric and even where design work has a 'real life' context there is a tendency to 'tailor' the design brief, often for valid educational reasons, in order that the creativity of the student is not limited by the reality of the context of the design problem."*<sup>9</sup>

This has been noted generally in architectural education, as 'real' projects are tailored to meet the requirements of the RIBA and ARB. As a curricular project, Events sits within the studio unit of each academic year and is therefore bolstered by other projects which meet the broader professional requirements. This gives the programme a degree of flexibility, allowing students at postgraduate level to write their own agenda, and those at undergraduate level to choose the project that they feel most appropriate to their on-going architectural development. In the case of Events, the agenda has moved from being set by staff to being set by the student and enhanced by their live collaborator, in this manner the programme is disconnected from the restraints of the curriculum.



Figure 3. Guerrilla Tactic with the National Football Museum, Manchester, Events 2013 (Laura Sanderson).

Creating an inclusive learning environment is another key concern. Honey and Mumford (1992) define four distinct learning styles as Activist (likes lots of activities), Pragmatist (likes to apply what they



have learnt), Theorist (likes to read before they apply), and Reflector (likes to try something and think again)<sup>10</sup>. Creating a mixed approach is the key to curricular planning for a diverse cohort and this is evidenced in the variety of projects offered in each year's programme. Although not necessarily intentional, the spread of projects on offer is tantamount to the structure of the programme, providing for students with diverse learning styles. This variety has evolved through continual reflection on the successes and failures of previous events, allowing the programme to approve more diverse projects.

One of the key concerns of PBL is the complexity of the role of the facilitator. Barrows states that 'the ability of the tutor to use facilitating teaching skills during the small group learning process is the major determinant of the quality of success of any educational method aimed at 1) developing students thinking and reasoning skills as they learn, and 2) helping them to become independent, self-directed learners.'<sup>11</sup> In essence this involves two stages for the facilitator, firstly setting the appropriate context and secondly standing back and allowing the process to unfold.

In the case of the Events programme the role of the facilitator has changed over the years, initially delivered as a staff led project and then moving towards a student led and staff facilitated programme and finally to a student led and student facilitated programme where the staff role is limited to;

- Giving an overview of the expectations of each Event in an initial briefing.
- Assessing the validity of each student led brief.
- Providing overall strategic support of the programme.
- Monitoring the risk associated in each Event risk assessment.

Overall assessment of students at each level.

In the current programme this allows for postgraduate students to develop their own agenda, choose and contact their own collaborator(s), plan their Event, run the relevant sessions and disseminate the final output with very little engagement with staff. A significant evolution of the programme in 2013 involved the students writing their own risk assessments, in previous years the programme had been covered by one overarching assessment. Moving this responsibility to the student facilitators had two

specific benefits, firstly it allowed the groups to gain skills in the assessment of risk and secondly it provided a more thorough and event specific review of the risks which in reality is difficult to map when the project is student rather than staff led.



Figure 4. Transgrestival Pavilion, Events 2015 (Victoria Jolley).

The final evolution of the project has centred on assessment and the use of a live blog and film to replace the previous submissions of portfolio sheets (2007-2011) and a booklet (2012-2014). Utilising a live format has allowed a significant development in the documentation of the process rather than the output centred formats previously adopted.

### Legacy

Three case studies have been chosen to illustrate three specific legacies of the programme in the categories of built legacy legislative legacy, and research legacy.

#### *Case Study 1 // Atelier Zero*

##### *Built Legacy // 2012*

Atelier Zero was an Arts Council funded collaboration between Manchester School of Architecture, École Spéciale d'Architecture (Paris), the Office for Subversive Architecture and curator Jane Anderson delivered as part part of Events 2012 for the Cultural Olympiad.

The context for Atelier Zero began over a year before the students began the project in the application for funding and a site. One of the key difficulties was not knowing what the project would be at the point of setting this context. This was a difficult negotiation for both the Art Council who were funding the project and Town Centre Securities who owned the

site. Convincing everyone that students could do this and that even though we did not know what the project would look like, we knew it would be safely constructed, that it would not wear over the summer or cause any damage to the public or the reputation of the collaborators involved.



Figure 5. Atelier Zero, OSA + ESA, Arts Council England and CityCo, Manchester, Events 2012 (Helen Aston + Laura Sanderson).

As the project developed, it was decided that the Events programme would provide an appropriate setting for the design and construction of the installation. 12 designs were completed by the two collaborating Schools of Architecture (MSA, Manchester and ESA, Paris). In short the final project for a boating pavilion comprised 13 adapted garden sheds, five boats, five giant swing balls and a layered collection of sporting line markings. The project was built over 12 days and spent the following 77 days in situ under the supervision of two attendants and five volunteers.

From the onset, the proposed legacy of the project was to go beyond the physical creation of an installation and the educational objectives of the programme. It was thought that the project could act as a catalyst for the longer term occupation of the site. When a past use is redundant and a future use is not yet possible, a meanwhile use occurs. The objectives are vast and varied dependant on the landowner, and range from aiming to attract a buyer, raising the profile of the area or simply wanting to use space effectively in the meantime. Landowners are wary about any temporary projects as the outcome of such activities is often unknown at the onset.

*“Although, by definition, temporary uses are*

*activities limited to a certain duration, they do leave traces and often influence further developments on the site. A disused space may have become invisible to potential developers. Temporary users then become “pioneers” discovering the place and making it publically known.”*<sup>12</sup>

*“Temporary use does not in itself influence a properties net asset value, yet many owners fear that their property may depreciate because unwanted temporary users block redevelopment and frighten away more profitable users.”*<sup>13</sup>

In the case of Atelier Zero, the complex site sat at the edge of the City Centre on a redundant canal basin and the installation acted to draw attention to the potential uses of the water and its margins. This created both opportunities for the design but also complications, although the basin was owned by Town Centre Securities, the water was owned by British Waterways, who applied a further layer of complications when it came to risk assessment. The land owner was eternally sceptical about the use of the water and it was only agreed a few days before the opening that the boats were actually allowed to be borrowed by visitors, highlighting one of the on-going negotiations required for a pure PBL approach in architectural education.

During the occupation on site, there were four incidents of anti-social behaviour observed over the summer but none of any huge significance. There was no graffiti and no vandalism. Three lifejackets and three balls were stolen from site. There were sometimes people sat on the pontoons at night which was a cause for concern for the land owner in terms of risk however these were the same people who sat on the canal edge anyway before the installation was built. In this type of project, it is worth noting that there is a difference between perceived disorder and actual disorder although to a large extent those who have a vested interest in the risk are perhaps more likely err on the side of caution.

*“The mixture of diverse activities and people, the occurrence of unexpected events and actions, apparent disarray and physical deterioration all create a certain amount of disorder in loose space. Disarray and deterioration have benefits: they invite people to take the initiative in imagining and creating their own arrangements of space and finding alternative uses.”*<sup>14</sup>



Mediating interaction is a very difficult boundary. Allowing people to act freely in relation to an installation whilst also maintaining order was a common problem for both this project and others in the Events programme. Acting as a facilitator to the projects, the School of Architecture has a fundamental role to the safe implementation of the students' creative but sometimes unruly ideas.

Both physical and virtual feedback was collected from visitors in the form of boat handover forms and a visitor's book on site as well as Facebook and Twitter. The project was also published in a number of local and national publications and alongside a cluster of projects in the Basin over the summer generated an estimated PR value of £450,000<sup>15</sup> and reached 162,292 people on Facebook. Atelier Zero was decommissioned at the end of the Cultural Olympiad and the parts dispersed to six locations across Greater Manchester.

#### *Case Study 2 // Gate 81 Legislative Legacy // 2013*

Gate 81 was launched in January 2013 by Sally Stone, an academic and director of the postgraduate atelier Continuity in Architecture (CiA) at the Manchester School of Architecture, together with creative producer Ruth Heritage from They Eat Culture (TEC) and architect Dominic Roberts, partner at Francis Roberts Architects.

*"The specific intention of Gate 81 was to create a series of projects that would bring to greater attention the plight of Preston's Bus Station, with the objective of raising the profile of the building, and therefore increasing the chance of saving it from the intended demolition. There had been a considerable amount of negativity surrounding the future of the Bus Station, and this was an attempt to bring some optimism to the situation."*<sup>16</sup>

The project became part of the Events programme not long after its inception and utilised the building reuse agenda of the postgraduate atelier run by project instigator Sally Stone, who acted as the collaborator for the Event. Year 05 student facilitators had been working on reuse projects in the UK and this Event provided live experience of the politics of retaining heritage assets which have outlived their original intended use. The intention was to engage the local community in real options for the future of the Bus Station and demonstrate options for reuse as a viable

alternative to demolition.

*"The most ambitious project was the workshop or HacLab, which was held on a Saturday in May, at the northern end of the ground level concourse of the Bus Station. This was a one-day event that could be likened to a village gala. It was deliberately highly accessible and open to anyone and everyone. Lots of different activities were planned; some were more serious than others. The day centred upon an open charrette or workshop, which was interspersed with a series of lectures."*<sup>17</sup>

Postgraduate and undergraduate students planned and ran the Event and then disseminated the findings, which resulted in local and national press including a significant section on the Channel 4 News.

Like many of the events in the programme, it is sometimes difficult to map a live project into a specific curricular window, especially one which is only two weeks long. In the case of Gate 81, the programme acted as a catalyst for other things to happen outside of the taught curriculum which were led by academics. Further projects included work with local schools and an architectural charrette in the offices of BDP Architects who designed the original Bus Station. A final project occupied the city as a procession and was discussed in 'IDEA Journal 2014: Design Activism'.

*"The last project was a procession; not an aggressive march, demonstration or protest making demands and ultimatums, but more like a cavalcade or cortège. It was again an opportunity to celebrate, recognise and enjoy the building. Continuity in Architecture in collaboration with the Gate 81 project team constructed a huge model of the building, which was based upon the Ancient Roman warfare technique of the turtle formation. This was carried in sections through the streets with the intention of creating recognition and delight."*<sup>18</sup>

Following on from just under 12 months of activity, Preston Bus Station was granted Grade II Listed Status at the end of 2013. A legislative legacy of the programme.

*"English Heritage is very pleased that the Heritage Minister has agreed with its advice to list Preston Central Bus Station and Car Park at Grade II. A dramatic building which combines innovation with architectural panache, the Bus Station fully deserves this marker of special recognition."*<sup>19</sup>

### *Case Study 3 // MerzBahn*

#### *Research by Design Legacy // 2015 - 2017*

In recent years Events has received repeat research and design projects from the same collaborator with data and outputs consecutively revisited. Work with the Littoral Trust for the Merz Barn in Elterwater is one example. In 2015 the Littoral Trust, who are developing the *Kurt Schwitters in England* programme, contacted the Manchester School of Architecture inviting students to consider the Elterwater's potential as a visitor attraction. The brief included the design of a library, Merz museum and artists' residences as well as proposals for how the Merz Barn itself, the former location of the Merz installation, may be preserved for future generations. A key requirement was the translation of Kurt Schwitters' creativity into the design's spatial qualities. This became a focus for one Event group in 2015<sup>20</sup> who sub-divided their team to address each of the desired buildings. Session plans and risk assessments needed to allow for a short residential trip and site visit. Skills transferred between postgraduates and undergraduates included sketching, model making, visualisation and client presentations. Numerous reflective in-action blog entries capture the energy and knowledge encountered during Events week as well as skills progression, outputs and activities.

In 2017 the project was revisited. Treating the 2015 work as a seedbed, a clear brief for the Museum was developed and this was expanded to ask that also asked students to use the Dada movement to inspire alternative means of architectural representation for client presentations. The building's requirements were refined to include an exhibition art shed where visitors could learn about Kurt Schwitters and artists can exhibit their work. Group leaders embraced the blog's potential to disseminate resources and communicate logistics as well as present final outcomes, which were also exhibited in the Manchester School of Art. By repeating the project the work of Kurt Schwitters and the Merz Barn has a presence in the School and students are encouraged to engage in summer schools and workshops to further their personal learning journeys.

### **Conclusions**

It can be observed that the increased implementation of PBL projects into Higher Education

have provided a strong research platform to critically evaluate the value of this pedagogy in relation to architectural education. In the case of Events this offers students a different learning experience from the 'studio' approach most commonly applied in architecture schools.

Events is pedagogically rich, celebrating the diversity of the discipline through projects which reflect the current, cutting edge, agendas of the student body. Transparency, introduced through assessment methods, such as blogs and films, allow all students to access those Events. Live agendas are rooted in the Schools atelier ethos, allowing themes being explored at postgraduate level to disseminate to undergraduate years.

The diverse and wide reaching legacy of the programme is evidenced in over 200 projects spanning the last decade. Events has consistently provided a 'seed bed': an opportunity to explore, exchange and promote ideas across trans-disciplinary networks. Projects have had published outputs in the city and beyond, often leading to repeat commissions and allowing the programme to build on previous knowledge.

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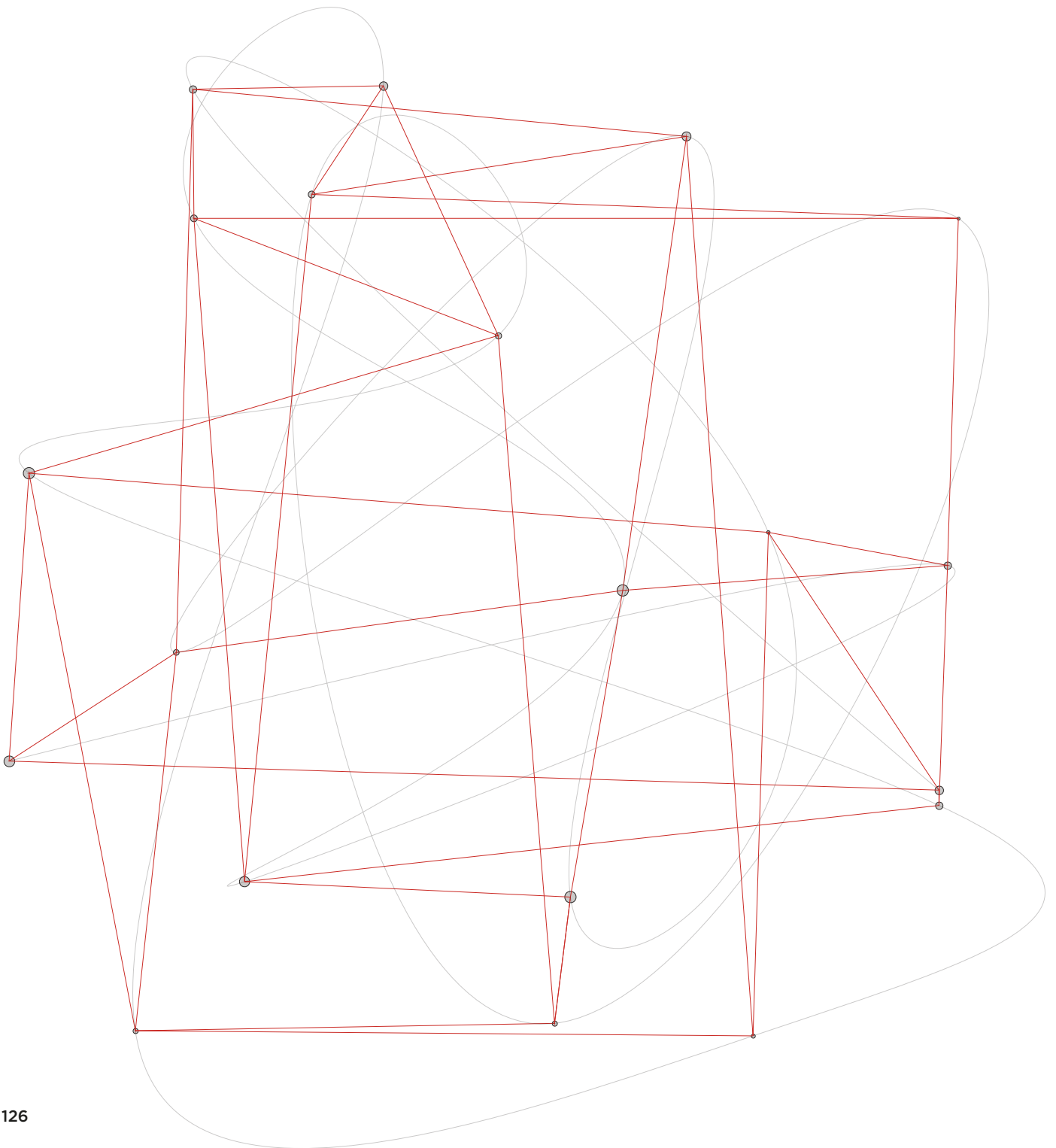
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## 1.6 AGILITY



# Addressing complex challenges. A design thinking approach for social transformation.

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## ABSTRACT

Over the past decade, the term “design thinking” has garnered increased attention over a wide range of contexts, and become more familiar outside the professional design arena. Exploration of potential cross-boundary engagements and the role of design as an agent of change for both innovation and social transformation are two main mechanisms for the burgeoning discussion of design thinking in areas outside the design professions. This article lays out how design thinking applies to complex social challenges, taking a food sustainability project in Thailand as a case study. To investigate how design thinking is applied and understood in practice for social change, the analysis examines a social transformation project and draws conclusion from the potential of design thinking in serving as a mechanism that enables and promotes social transformation. The study shows how design thinking can foster new approaches to complex and persistent social problems through a co-creation strategy, systemic thinking framework, abductive reasoning analysis and an iterative design method. It does so using qualitative analysis of participant observation and in-depth interviews. This analysis reveals that initiatives using design thinking approaches yielded successful efforts and positive outcomes. A collaborative working network as well as mutual support exists among the participants, along with greater levels of shared understanding in relation to the strategies of employing design thinking to promote change. The participants achieve strong commitment and a sense of ownership in this collaborative working platform.

**KEYWORDS** design thinking, social transformation, social lab

## Introduction

Interconnectivity in present-day society is rapidly increasing, creating entirely evolving challenges. The complex interrelationship of social challenges requires highly flowing and adaptive new approaches.<sup>1</sup> The multifaceted issues facing us today tend not to be achievable with the capabilities of one single existing academic discipline.<sup>2</sup> Cross-disciplinary approaches and co-creation of knowledge need to be considered in order to work with intricate social challenges and for social transformation.

Strategies for co-production and cross-disciplinary approaches can address multidisciplinary methodologies for this new paradigmatic setting for social transformation. Recently, heightened attention toward design as a strategic resource in both managerial and social debates has been witnessed. A paradigm shift of the design thinking approach from traditional design to emerging design practices moves the focus of design discipline from the design of products to designing for people and/or social needs.

Several scholars have highlighted the potential



of design thinking in contributing to a wide range of contexts outside of professional design.<sup>3</sup> Design thinking is acknowledged as an essential tool and an exciting new approach for simplifying and humanising problems in discourse ranging from business management,<sup>4</sup> public services, to social issues.<sup>5</sup> It has been used to tackle more complex problems beyond its traditional roles in enhancing the look and functionality of products. Sectors ranging from business management to public service have been monitoring and engaging with design thinking in undertaking social challenges.

One of the challenges in taking a critical look at this new perspective is to move from thought to action.<sup>6</sup> The present study provides practical insight into how to use design thinking approaches to tackle social challenges. Focusing on the new discourse, the objective is to understand design thinking in solving complex social issues and how it has been applied in remarkably different problems and contexts. This article demonstrates such application taking a food sustainability project in Thailand called Kon Gla Keun Tin as a case study, with qualitative analysis through participant observations and in-depth interviews.

This analysis examines a social transformation project and draws conclusion from the potential of design thinking as a mechanism for promoting and enabling social change to investigate how design thinking is applied and understood in practice for this end. This article introduces the core elements of design thinking for social transformation and shows how it can supplement current social issues and practices. It also provides a case study of a paradigm shift in the design thinking approach that is adopted as a way to move beyond today's conventional problem-solving approaches. The study shows how design thinking can foster new approaches to complex and persistent social problems through a co-creation strategy, systemic thinking framework, abductive reasoning analysis and an iterative design method as it seeks to identify insights into the practical use of design thinking approaches in social transformation.

The findings indicate that initiatives using design-thinking approaches have yielded successful efforts and positive outcomes. The analysis shows a design thinking approach produced an environment of collaborative learning among participants, and held promise for development of new tools that better

facilitate social transformation. A collaborative working network and mutual support exist among the participants and there were greater levels of shared understanding in relation to the strategies of employing design thinking to promote change. Participants demonstrate strong commitment and a sense of ownership in this collaborative working platform.

### **Design Thinking in Solving Complex Social Issues**

Design thinking discourse has different meanings depending on its context. Scholars have defined design thinking within varied approaches. In a business and management context, it has been characterised as iterative, user-centred approaches that promote creativity and innovation, as well as a mechanism that adds value, unlocks innovation and generates economic benefit.<sup>7</sup> Within the design realm, it represents different discourses of "designerly thinking," or ways to describe what designers do in practice.<sup>8</sup> From the view of design theory, the definition to contextualise design thinking's meaning includes an approach to creative problem solving,<sup>9</sup> an abductive way of thinking,<sup>10</sup> and a methodology that could be used in multidisciplinary settings.<sup>11</sup>

Design thinking is also recognised as an instrument for societal change in public services.<sup>12</sup> Previous research on the topic has suggested its characteristic of exploring complex problems that emerge in times of rapid change<sup>13</sup> and recognised attributes for providing a systemic design process that enables innovative solutions to business and social issues.<sup>14</sup> Design thinking is acknowledged as an essential tool and an intriguing new approach for problem solving in discourses ranging from business management to public services and social transformation. It implies bringing together multiple models of systemic thinking, modalities of practices and holistic perspectives. It addresses complex problems in uncertain contexts and mobilises tools and attitudes to that end.<sup>15</sup>

The significant trait for advocates of design thinking within a range of non-design sectors derives from design's possessing strategies for addressing ill-structured and complex intractable issues. Design thinking has been identified as a potential approach in a hypothesis-driven process for helping create solutions and contribute to social transformation.<sup>16</sup> It is especially well suited to tackling uncertain and ambiguous situations in which the problem is not

articulated.<sup>17</sup> It is a problem- “defining and solving” approach that provides a heuristic framework that supports participants dealing with complex issues to collaborate on generating solutions.<sup>18</sup>

### Design Thinking Approaches for Social Transformation

The concept of design thinking has been widely discussed within the settings of design, management and creativity research. The present article contributes to the growing body of knowledge by studying the inherent relation between design thinking and its capabilities for solving complex issues for social transformation. This article lays out how design thinking applies to social transformation challenges and how it may utilise this proven and accessible problem-solving process. The study shows how design thinking can foster new approaches to complex and persistent intractable problems through a (1) co-creation strategy, (2) systemic thinking framework, (3) abductive reasoning analysis and (4) iterative design method.

Design thinking approach	Principle	Practice	Module
<b>Co-creation strategy</b>	collaboration	collaborative working	social lab
<b>Systemic thinking framework</b>	holistic perspective	root cause analysis	ice-berg model
<b>Abductive reasoning analysis</b>	creative problem solving	diverse perspective	divergent-convergent thinking
<b>Iterative design method</b>	learning by doing	experiment	quick prototyping

Table 1 Design thinking approach and framework: principles, practices and modules

Table 1 describes design thinking approaches through their principle, practice and module. The table was adapted from the structured coding method based on Dean and Bowen’s conceptualisation of the

principles, practices and techniques<sup>19</sup> and the structure to create a framework for conceptualising design thinking proposed by Carlgren et al.<sup>20</sup> “Principle” was coded as a basic idea, general concept or foundation of design thinking approach; “practice” was coded as a specific way to put principle into action and “module” as a way to carry out a specific task to achieve a design thinking approach.

### Co-creation Strategy

The first and most critical aspect of design thinking for social transformation is co-creation strategy. Co-creation emerged independently in several fields.<sup>21</sup> For business study, “value co-creation” adopts a collaborative approach by considering customer engagement in the production process for a mutually valued outcome. For design discourse, there is a shift in viewpoint from designing for users to designing with users (from user-centred to co-designing or co-creation). The co-creation approach derives from new perspectives of user-centred design and a participatory approach that reveals the benefits of user experience over user testing.<sup>22</sup>

The user-centred approach cannot address the scale or complexity of today’s challenges because of the emergence of future experiences of people, communities and cultures that are unimaginable and uncertain.<sup>23</sup>

Co-creation broadly refers to the effort to combine the views, input and skills of people with myriad perspectives in order to address a specific problem. Co-creation is a creative approach that supports and facilitates democratic involvement of people in addressing social challenges, and encourages collaboration of people within organisations and among local communities.<sup>24</sup> Collaboration in a social lab respects all stakeholders’ forms of experience and viewpoints related to the issue. Using a design thinking approach with a systemic thinking framework, abductive reasoning analysis and an iterative design method, the process enables stakeholders to work collaboratively for improving or creating shared solutions fit for the purpose and based on the real needs and desires of their direct beneficiaries.

### Collaboration

Social lab methodology was implemented to practice collaborative working. Focusing on a

collaborative working platform, social labs bring together stakeholders from across a system to explore the root causes of their problematic situation. Participants then work collaboratively to devise and test solutions aimed at key leverage points. A Social lab requires a team that reflects the diversity of people affected by and involved in the problem at hand, and the full multi-layered reality of the system. Social lab methodology using design thinking approaches were implemented in the food sustainability project in Thailand. To catalyse systemic change to confront complex social problems for social transformation, the crucial factor in this project was experimenting. In experimenting on a portfolio of prototype solutions, one of the challenges is moving from thought to action.<sup>25</sup> In concentrating on the processes in actions, the present analysis brought about an understanding of how design thinking impacts problem solving.

### **Systemic Thinking Framework**

Social transformations associate with complex issue such as sustainability, which require systemic thinking skills.<sup>26</sup> Additionally, developing a shared conceptual “system sense” is even more important when effective collaboration is the aim.<sup>27</sup> Social challenges require systemic solutions. To create change and transform social reality, participants must carefully consider the system they are trying to change. It is not sufficient to understand what is happening; one must realise long-term perspectives to conceive what is happening over time. Moreover, there needs to be consideration of the underlying structures and thinking that may be causing the issues.<sup>28</sup>

Systemic thinking is the method of exploring the understanding of a system by focusing on key skills, including seeing interrelationships, not things, and processes, not snapshots.<sup>29</sup> Systemic thinking helps us discover the patterns of behaviour, supporting structures, and mental model including values, beliefs and assumptions that underlie a particular event. When we are bound by mental models, we cannot carry all the complex details of the world in our mind; but we keep images, assumptions and stories in our heads.<sup>30</sup> Mental models can be simple generalisations or complex theories. Most important to grasp is that mental models shape how we act.<sup>31</sup>

### ***Holistic perspective***

The holistic perspective is one of the significant attributes of quadrant D (right brain, cerebral) in the Herrmann Brain Dominance Instrument<sup>32</sup> associated with creative problem solving, systemic thinking, synthesis and design. Such a perspective must be developed in order to have systemic thinking capability. In a holistic perspective, the entire system is considered, rather than a single situation, as well as the involvement of all stakeholders. Understanding the situation behind an issue requires a holistic perspective that considers not just the specific issue under consideration, but how that issue functions in context as part of the environment or system in which it exists.<sup>33</sup>

Considering the interconnections and relationship between the different parts of a system, participants can explore the underlying causes of the problematic situation they are facing using a systemic thinking approach as provided by the Iceberg module. This model helps group members identify patterns related to a problem, the system structures related to those patterns and the ingrained thinking that creates the structure as well as the mental model, which is the core reason of the situation. The iceberg changes the perspective of the way we look at the system by encouraging us to expand our horizons. This module aims to identify the different patterns that the event is part of rather than consider just a single event to understand the possible structures that might be causing it to occur. Finally, we explore the mental model that is creating those structures.<sup>34</sup>

### **Abductive Reasoning Analysis**

In design theory a learning-focused and hypothesis-driven approach, such as that proposed by Schön<sup>35</sup>, is central<sup>36</sup>. The idea here is that while scientific hypothesis work focuses on what already exists, design hypothesis work is about what might be.<sup>37</sup> Design thinking involves “designers” solving problems through collaborative integrative thinking<sup>38</sup>, using “abductive” logic.<sup>39</sup> Abduction has been described by Roger Martin as the “logic of what might be” and being future-oriented.<sup>40</sup> Abductive logic is described as the only type of logic to introduce any new idea, which takes place through the process of forming an explanatory hypothesis and based on prior experience.<sup>41</sup> In this sense, abductive logic is different from deductive and

inductive logics, which are the logics of “what should be” or “what is.”<sup>42</sup> The deductive approach entails using accepted premises and gathered information to draw conclusions from what is known, while the inductive approach tries to arrive at guides to action through existing empirical evidence. Both approaches use existing data to draw conclusions.<sup>43</sup> Therefore, abductive reasoning allows for the creation of new knowledge and insight.<sup>44</sup>

### *Creative problem solving*

Creative problem solving is associated with process, method or system for approaching a problem using creativity. The process helps redefine problems and explore new solutions and possibilities. The Herrmann model<sup>45</sup> of thinking preference described the paradigm shift in thinking preference needed for success in the 1960s to 1990s and beyond. Based on Herrmann’s model, quadrant D is imaginative, conceptual, intuitive, visual, holistic and innovative. All these qualities are associated with diverse perspectives. To create diverse perspectives and creative problem solving using an abductive reasoning approach, the present project employed divergent–convergent thinking in practice. Divergent thinking helps generate alternatives to the present reality, and provide more solutions, while convergent thinking sorts out options and helps decide which is best.

### **Iterative Design Method**

Trial-and-error learning through iterative methods is a significant characteristic of design thinking.<sup>46</sup> Iterative design is a process-based design thinking framework that allows a cyclic process of prototyping, testing, analysing and refining a work in progress, aiming to explore a range of possible solutions.<sup>47</sup> To rapidly create and test ideas, the iterative prototyping process assists in generating feedback from potential users, refining idea development and correcting costly errors before implementation.<sup>48</sup> The oscillation of iterative prototyping practices encourages creative hypothesis setting of “what if?” questions and problems focusing on expected results that leads to new ideas and tests multiple possible solutions.<sup>49</sup>

### *Learning by doing*

Working experimentally is an important concept of a social lab. Experimenting is a learning process

based on reflection in action. The use of low-resolution prototypes in combination with an open environment that allows for failure and iterations is also considered important. It is crucial to keep a record of the information, insights, and feedback gained as an idea evolves. The key objective of experimenting is to create the space for ideas to safely fail. This means that one wants failures to happen early in the process so they are not repeated. Missteps often provide important lessons that inform and improve ideas. In time, confidence in experimenting becomes strong enough that the idea can be tested in a pilot project, and if successful, scaled. Prototyping is a key activity in the design thinking process. Prototypes are representations of design solutions both for the design process and design decision before final artefacts exist.<sup>50</sup> Design prototypes are tangible artefacts that facilitate thinking, understanding, learning, and communicating concepts and ideas.<sup>51</sup>

### **Kon Gla Keun Tin Food Sustainability Project**

Khon Gla Kuen Tin (literally, “brave people who return to their homeland”) is a food sustainability project in Thailand initiated by the Scenario Thailand Foundation, a socially oriented organisation emphasising collaborative working platforms for change in Thailand, and its 20 partners (academics, corporations, non-profit organisations and government agencies). The project aims to create change agents and capacity building in the agricultural sector by encouraging younger generations facing economic difficulties in the city and the hardships of being urban residents to return to their hometowns and employ self-reliance philosophy as initiated by HM the late King Bhumibol Adulyadej, for agriculture and farming. This initiative aims to solve the dual problems of aging society in the agricultural workforce along with food sustainability and self-reliance.

Social lab methodology using a design thinking approach was implemented with the purpose of solving this complex challenge at the root-cause level and to enable self-reliance and food sustainability at the system level. The project was initiated in 2014 with plans for sustainable change in Thai society. The lab was designed, focusing on intensive, experimental interventions along with the diversity of people affected by and involved in the problem at hand, and the full multi-layered reality of the system. It was designed



to foster collaboration on three levels, detailed below.

Focusing on a design thinking approach, participants are more likely to generate good new ideas when they are exposed to outside conditions. Co-creation strategy and collaborative working platform were employed at the beginning of the process of convening stakeholders from across the whole system to participate in a kick-off workshop. A convening phase took place at the end of 2014. This involved in-depth interviews with approximately 30 members from different sectors of agriculture, as well as relevant stakeholders including bureaucrats, businesses, civil society, locally revered wise individuals, farmers, media and academics.

The kick-off workshop was a co-sensing process for establishing a backbone to develop shared understanding of current and emerging realities. It facilitated processes of critical reflection on the agricultural ecosystem. Participants were challenged to explore together with key stakeholders. Through the workshops, they were encouraged to reflect on their own responsibility and positionality within this ecosystem. To grasp a holistic perspective of the problem, the workshop helped participants develop a deep understanding of the issues as seen by the key stakeholders, as well as to explore the root cause of the problem using a systemic thinking framework. Apart from development of a fundamental understanding and realising a mental model of the problem, a sense of ownership-building was also considered. A co-creation strategy was employed to build the ecosystem of the project at the beginning, as sustainable transformation depends on insiders.

After the kick-off was a lessons-learned workshop inviting the aforementioned wise individuals to share knowledge and co-construct the core lesson of a 5-day, 4-night workshop. The workshop invited influential and well-respected people who embraced organic farming practices and self-reliance. They would serve as role models for creating area-based nodes of learning and incubating. They included Jon Jandai, a leader in bringing the natural building movement to Thailand, and a former TED Talk speaker. Jandai founded the Pun Pun centre for self-reliance in northern Thailand. Another was Dr. Keirk Meemungkit, a leading figure who diverged from Thai social norms in becoming an agriculturist with a strong commitment to afforestation to revive life within communities. Dr.

Meemungkit founded a community training centre in eastern Thailand to provide capacity building and vocational education for villagers.

The lab was designed to foster collaboration on three levels' (1) building the capacity of the individual, (2) building the project ecosystem and (3) building system leadership.



Figure 1. A lessons-learned workshop inviting the influential and well-respected people who embraced organic farming practices and self-reliance to collaborate and contribute to the project (Kallaya Tantiyaswasdikul)



Figure 2. The aforementioned wise individuals shared knowledge and co-constructed the core lesson of a 5-day, 4-night workshop (Kallaya Tantiyaswasdikul)

### *Level 1: Building the capacity of the individual*

To build individual capacity, the project creates a change lab process that includes:

1. 5-day, 4-night workshop
2. Learning journey trip
3. 5 months of in-field practice

The 5-day, 4-night workshop emphasised the need to diagnose problems, explore self-inspiration and goals, and develop the life plan for participants.



Considering creative problem solving, participants designed their own plan using abductive reasoning analysis. Each plan was unique based on each context and suited for each capability. Learning journeys are trips through which a team can develop a shared, grounded understanding of self-reliance-based agriculture by staying with knowledgeable individuals and learning and experiencing the real world. This co-residence provided the opportunity to face the real situation and problems so they can learn about the situation and develop their own holistic perspective. After the 5 months of in-field practice, the participants returned to work in agriculture in their homelands. This process was designed following the iterative design method. Focusing on trial-and-error learning, the participants were encouraged to experiment with organic farming, together with peer support. During this process there were three visits from the experts and friends to provide advice and moral support.

#### *Level 2: Building the project ecosystem*

The number of change agents must be maximised to reach a critical mass in order to build the ecosystem. The accelerating level must be taken into account to accomplish this. The project increased cooperation across boundaries that separated nodes, and developed new practices in community and agricultural staff engagement. The initiative increased local people's participation in promoting their own food sustainability, and improved governmental responsiveness to their concerns. Initiative leaders created incubating nodes to coordinate change labs across regional areas, and that new structure was so successful that the local community employed the concept and made it central to implementing the program in other communities.

#### *Level 3: Building system leadership*

In advancing through levels, the project also considered building system leadership. The project developed cross-boundary leadership systems that mobilise important stakeholders and connect their activities to a larger context. Initial coalitions organised workshops that used the social lab framework to create new leadership systems, which provided an institutional base for promoting continuity in relations among stakeholders. In the project, a small coalition organised a cross-boundary workshop

that led to formation of an area-based team, which functions as a multi-stakeholder leadership system.

The project was promoted using social media to reach the younger-generation target group. The first batch was run between March and December 2015 with 780 kon gla (brave participants) and 15 incubating nodes. The second batch was run between January and October 2016 with 1,028 participants and 23 nodes. The third batch has been launched since March 2017. The project has expanded the collaboration network and mutual awareness in Thai society for long-term commitment to self-reliance.



Figure 3. Participants explored “life plan design” using simple prototyping-sandpit (<https://www.facebook.com/konglakuentin/>)



Figure 4. Learning Journeys to stay with knowledgeable individuals, experienced-planting rice (<https://www.facebook.com/konglakuentin/>)

## Discussion

Kon Gla Keun Tin is a human-driven project aimed at strengthening food sustainability and self-reliance to drive transformational change in Thailand. The project encourages change at the system level and allows both the individual and system leaders to drive and create ecosystems. To build social transformation, the social lab focuses on addressing root causes, developing solutions in practice, involving all key stakeholders, using design thinking approaches of a co-creation strategy, systemic thinking framework, abductive reasoning analysis and an iterative design method to grow the collaborative working platform that delivers results over the short and long terms.

The article introduces the core elements of design thinking for social transformation and shows how this thinking can supplement current social issues and practice. This collaborative working platform starts with social lab methodology using a design thinking approach. A systemic thinking framework was implemented to explore root cause analysis. The process revealed the mental models underlying the workforce's problems in agriculture in Thailand, which were the underestimation and lack of respect for agriculture and agriculturists. The project was designed and presented new value and perceptions of agriculture, reflected as smart agriculture and organic farming, aligning with global agricultural trends.

The core concept of the implementation is transforming the method of the previous agricultural training program into a social lab process. During the social lab process, we can observe a collaborative atmosphere when influential leaders share their experiences—both successes and failures—to help develop the core lesson. The lessons-learned workshop succeeded in creating a 5-day, 4-night workshop and 5-month in-field practice, with knowledge co-produced via collaboration among the participants.

Following a design thinking approach, the participants acquired holistic perspectives and realised the mental model of the problem that created the barrier. They employed abductive reasoning analysis to explore creative problem solving that helped them to think differently and surmount their own barriers to design their own plans. The efforts could be considered a success when participants finished increasingly constructive life plan designs. The iterative design method encourages the participants to commence

action with confidence. This methodology focuses on trial-and-error learning through iterative activities. The key objective of experimenting is to create the space for ideas to fail safely. The participants were not afraid to start, but wished for any failures to occur early in the process so they are not repeated.

Finally, the network and mutual trust were expanded using a co-creation strategy. The participants adopted strong commitment as well as a sense of ownership of the project. The process succeeded well in forming bonding relationship among participants. After the 5-day, 4-night workshop, the teams created online group discussion to share the activities they carried out and provide useful information based on their own 5-month in-field experiences. This online platform worked in parallel with a peer exchange visit to enable and encourage the participants to start working with their own plans.

The findings indicate that the initiatives using design thinking approaches yielded successful efforts and positive outcomes. The analysis reveals that a design thinking approach produced an environment of collaborative learning among participants and held promise for development of new tools that better facilitate social transformation. A collaborative working network and mutual support exist among the participants and there are greater levels of shared understanding in relation to the strategies of employing design thinking to promote change. The participants have achieved strong commitment as well as a sense of ownership in this collaborative working platform.

## Conclusion

This study provides practical insight into how to use design thinking approaches to tackle social challenges. Based on a case of social transformation in Thailand, this article presents the implementation of design thinking methods to create new approaches for change. It describes, via both a literature review and a supporting case study, the key approaches of design thinking required for social transformation. It analyses a key transformation project in Thailand that used the support of a social lab using a design thinking approach aimed at catalysing social change. However, the study has an important limitation in terms of evaluation, which needs to be included in the next step. One of the key future challenges lies in the assessment process, because not only is there need for a design thinking

approach that takes the main role in social change, there is also need to combine with other processes for it to be truly effective. This challenge implies the need for cross-disciplinary approaches and integration of different knowledge to achieve transformation.

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# Enjoying the Co-Production of Architecture. Learning with Others at the Beach.

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## ABSTRACT

This paper is part of an ongoing exploration of the knowledge and practices central to and generative of an anthropological architecture. Together with architecture students and builders, we (the two authors, whose trajectories meet in the moving between architecture and anthropology) have been researching-in-practice how to teach and learn a co-production of the environment that is in correspondence with materials, peoples and places. For us, this transdisciplinary endeavour is centred upon the practitioner's participation in the world through design and making. We discuss a specific Architecture Design Studio Course held in 2014/15 and 2016/17 around the topics of lifestyle migration in the Mediterranean. The course has gained insights from the work of the anthropologist-author with eco-building communities, in which building is firmly people-centred as well as environment-focused and the builders' enjoyment of the experience is key. It has also focused on how students can expand their sensitivities and 'tools of the trade' by learning from both the lifestyle migrants themselves and the things and places with whom they have come to build a new life. The design and analysis of this specific course is based on recent theories of anthropological and sociological engagements with art, architecture and design. We draw on the recent work of anthropologist Tim Ingold and his thinking on creativity as it emerges in practice and on education as a way of 'attending to things, opening up paths of growth and discovery'. Employing Altes and Lieberman's rather playful idea of the *intravention*, we use it to emphasise architecture as process and (in the 'intra') the way in which making architecture, or 'to architect', is always already situated within places and times. In our case, we think that the intraventions made with the students, teach us numerous things: architecture's possibility of including the total body in the design processes through enjoyment in making; the need to work from the inside of material flows to activate this possibility; the necessity of developing design tools for listening and working with a changing material environment; and that designing architecture can be fruitfully understood as growing and caring for not just a building, but also people – through pleasurable and enskilling making practices – place and community. Putting the practitioner in the centre and attending to place and materials and flux, an architecture of enjoyment is therefore the enjoying of the co-production of architecture.

**KEYWORDS** architecture, anthropology, lifestyle migration, enjoyment, intravention<sup>5</sup>

This paper is part of an ongoing exploration of the knowledge and practices central to and generative of an anthropological architecture and architectural anthropology. Together with architecture students and eco-builders, we (the two authors, whose trajectories meet in the moving between architecture and anthropology) have been researching-in-practice how to teach and learn a co-production of the environment that is in correspondence with materials, peoples and places. For us, this transdisciplinary endeavour is centred upon the practitioner's embodied participation in the world through design and making. That is, we centre it upon an idea of 'being there', and being sensorially- and physically-engaged, culturally aware, and sensitive to one's situation, agency and impact. This participation is often joyful, and, crucially, is characterised by the principle, found at the core of anthropology as we understand it, of working *with* others, learning *from* them, and privileging their experience of the world, as they see it.

We see many parallels between our approach and the 2017 conference Architecture Connect's emphasis on collaboration with people in real world contexts and work that is closely connected to the society in which it is based. However we also note some differences, which we think lie in the way in which the anthropological approach to working with people (founded in methodologies that see the professional becoming social neophyte and an observing participant within communities) irrevocably influences the way that architectural encounters and practice happen.

In order to discuss our transdisciplinary efforts and the way in which 'working with' and 'enjoyment' feature, we have chosen to focus in this paper on a specific Architecture Design Studio Course taught by the architecture-trained author in 2014/15 and 2016/17 around the topics of lifestyle migration in the Mediterranean (Figure 1). The course, developed whilst we, the two authors, began to converse and then to collaborate more closely, focuses on how students can expand their sensitivities and 'tools of the trade' by learning from so-called 'lifestyle migrants' (people that have come to the Mediterranean from elsewhere) and the things and places with whom they have come to build a new life. These new lives, we soon noticed, are characterised by the immigrant-dwellers' enjoyment of the coastal territory of the Mediterranean, of its resorts designed for pleasure and leisure. It is this notion of

enjoyment that we have chosen to use as a motif in this paper for thinking about the sorts of qualities of practice and relationships that our work in the world, within communities, in specific places, is characterised by as well as generative of.



Figure 1. One Site of the Course: A changing environment that modern design keeps trying to fix, and that we have been trying to learn to better attend to. Photo: Ester Gisbert Alemany

### Anthropological-Architectural Engagements

The author coming from Architecture, the students, and the migrants involved in the course are all based in the region of Alicante: a coastal territory in South-Eastern Spain. This site is paradigmatic for urban and social studies because of the drastic transformation it has seen in the last sixty years: tourism, one of the last century's major forces of change, has caused its radical alteration. Distinct from other forms of tourism, sun and beach tourism (and all the practices and infrastructures that emerge from them) of the sorts seen in this area of Spain, carry in themselves some of the most challenging contradictions of our time: here, tremendous development efforts and rapid urbanisation of natural landscapes (that we want both to preserve and experience) are driven by the pursuit of pleasure and the design of environments for enjoyment. The architects and architects-in-training that are part of this course, and are from the area, are focusing on knowing these landscapes of urban beaches – they've walked the tractored beaches and leapt off the concrete sea walls – however the anthropological approach of working *with* others encourages them to see these places and their materials anew. In the course, this is attempted specifically through close, one-to-one engagement with a lifestyle migrant, someone that might be the student's neighbour, fellow-beach-dweller, or even a trainer in a beach related sport as paragliding. The students may, therefore, not

personally have access to a long-view of the last six or seven decades, but they have their own dwelling experience to draw upon, that of their families, and they have the immigrant's perspective on things, which may well vary from their own and which they get to know whilst working with them.

The author coming from Anthropology, having worked mainly with self-builders and eco-builders in Scotland and New Mexico, has collaborated in this course, bringing to it her experience of working with alternative and ecological, and often non- or semi-professional, builders. She provides a perspective that variously highlights ways in which people engaged in ecological self-building are re-centring architecture around the person and within currents of wider social and political life, as well as flows of materials, the cycles of their environments, and even patterns of weather. Furthermore, the idea of enjoyment that came from the course and its specific location, sparked a comparison with the sites of eco-building participated-in by the Anthro-to-Arch author which often involved many volunteer builders.

On these sites, generally-speaking, it is important to people that they and others taking part in the build enjoy their participation in the labour of construction and then also in the dwelling. Those that organise and run such projects often note it explicitly, and often works are designed so as to try to facilitate and generate enjoyment. They try to foster camaraderie amongst workers, perhaps designate tasks to those who want them where possible, and often incorporate breaks, plentiful refreshments, other site visits and educational sessions into the builds. Enjoyment is also aimed for implicitly. For example, projects are often heavily reliant on volunteer labour and they tend to show that they know that volunteers – a workforce not obliged to stay and/or work – need to enjoy what they are doing.

Furthermore, in the projects researched by this author, building tends to be not separated into a 'work' category of time that is separate from 'personal life' (i.e. non-work) and so there is less of a demarcation between leisure time and work time: people devote their weekends to helping a neighbour put up a ceiling or their community build a classroom; they see building as a fitness pursuit or part of their creative and personal development. Thinking about enjoyment in terms of sensory pleasure, there's also a perceptible

emphasis in eco-building on the feel of the materials and what it is like to work with them and live in them. There's an attention paid to sensory pleasures, and the smell, or touch of a material is often juxtaposed with the hazardous and/or unpleasant nature of others they are providing an alternative to (e.g. adobe earth over caustic cement). Finally, there's an appreciation of the landscapes, flora and fauna of the site, because it is understood in eco-building that these are elements of the same environment as the building being built. This in turn suggests that the work of building takes place within a realm that fosters an environmental aesthetic, one that values a building's continuity and beneficial relationship with its wider environment and the beautiful experiences it can generate<sup>1</sup>.

Once we began to reflect upon some of the similarities and differences of our experiences of working with others at different sites of practice, it seemed that *enjoyment* was a motif around which we could share and interrogate many of the issues being raised by our transdisciplinary meeting and efforts.

### Learning With/From Migrants

The design and our analysis of the course in question is based on recent anthropological, sociological and, more widely, humanities engagements with art, architecture and design. We draw in particular, but not exclusively, on the recent work of anthropologist Tim Ingold and his thinking on creativity as it emerges in practice and on education as a way of attending to things, opening up paths of growth and discovery.<sup>2</sup>

We situated the course on the coastline: a place where the socio-material flux of which Ingold (ibid) writes is particularly evident, and where we felt suitably challenged to be attentive and to try to correspond with/in its dynamism. However, as we and our students worked, we felt our tools – heirs of Modern ideas of design – stopping and fixing the world in what Henri Lefebvre calls an abstract space where no durable and embodied engagement is possible.<sup>3</sup> In order to combat this, in this place that is heavily characterised by its urbanisation for mass tourism and the pursuit of pleasure, we followed Lefebvre, who was inspired here, in the resorts of this coast, to turn his ideas about the production of space to those of enjoyment within architecture. His manuscript on this, *Towards an Architecture of Enjoyment*, is only recently

published, but was originally written in 1973 upon the request of urban sociologist Mario Gaviria. With his research group at the time, Gaviria was studying the new towns of the area such as Benidorm and he invited Lefebvre to consider this space anew or in such a way that would counter overly simplistic readings of places as Benidorm. In *Towards an Architecture of Enjoyment*, Lefebvre created a somewhat abstract piece in which he contrasted the idea of pleasant architecture as consumptive with the idea of architecture as a process of designing and building. For him, architecture was not able to produce the effect of enjoyment, but could be enjoyable in the making (Lefebvre 2014).



Figure 2. A collage of the portraits students made of their 'hosts', on week one of the course. Photo: Various Students

In the first year of the course, 2014/15, we focused on the transnational inhabitants of the coast: tourist migrants that came on holiday and stayed to make 'a new life', and – as we noted above – it was one often very much based on the idea of extending their enjoyment of the territory (Figure 2). Although it was an architecture course the students designed products, tools and prostheses that would allow them to learn these migrants' ways of inhabiting this landscape 'from the inside' so-to-speak. The students tried to understand the experience, movement and perceptions of the migrants by co-creating things with them. Very much in-line with Lefebvre's notion of architecture as a mode of imagination rather than a disciplinary restriction<sup>4</sup> and his positioning of the body at the centre of his thinking, the design-work therefore emerged from the relationship established within each pairing of student and migrant and was very much attuned to the body (both generally, and very specifically) and its movement in the shared coastal

environment.

To begin with, the students were introduced to research about lifestyle and residential migration in this particular place and in the wider world. We also discussed literature on what it might mean to 'know something from the inside', not only people or communities but also their workings with materials and places. Architectural students are not used to scholarly writing and reading, so we privileged works that could lead to practical exercises. For example, we introduced the method of observational participation from Anthropology through Ingold's book *Making*, where this widely-used method of research is described as an "art of inquiry" whose aim is not to represent or describe but to learn from the people, or even the things, that the anthropologist is working with<sup>5</sup>. How to practice this specific art was then experimented with, by the students, through their own design practices. This, in turn, led to comment and debate in the classroom using emerging keywords that became common vocabulary among us. This lexicon of building-*with* grew as students were asked to design and build 'transducers' and to draw the 'taskscapes' of their 'hosts' (keywords that we will elaborate upon below). This tactic allowed us to introduce a bit of conceptual development and theoretical explanation every time a design was discussed.

For example, calling the lifestyle migrants the students' hosts brought us back again and again to the work of sociologist Karen O'Reilly who reveals the contradictions that mark the migrants' lives, as both tourists and residents. Also, discussing how the designs will support their 'Mediterranean dream' made us review repeatedly Raquel Huete's work that studies the reasons these migrants have for staying in Alicante<sup>6</sup>. This was the same for scholarly works on methodology. For example, students were asked to build tools that would allow them to learn the flows and changing mediums where their hosts lived. We said that these tools should 'transduce' the place. Around this word we discussed anthropologist Stephan Helmreich's research looking at the devices and technologies used in ocean immersion<sup>7</sup>. Helmreich (2009) shows how just as 'information directs us to questions of measurement as well as meaning', thinking about transduction 'adds the dimension of materiality' and allowed us to take further the notion of the other, which quickly came to include the more-than-human in the coastal places we



were studying<sup>8</sup>.

The first intraventions made by students range from self-made ‘witnesses’ (as they are called in building pathologies detection) to understand the forms and erosion that students found on the cliffs, to surface water worms that tell the student about the undulation of the waves, its rhythms, heights, frequencies (Figure 3). At the same time, we were practicing paddle-surfing with one of the lifestyle migrants that has become an instructor on the waters along these coasts. Together, on the water or in the studio, we could discuss why Helmreich thinks the immersion anthropologists undergo in a cultural practice is parallel to the immersion scientists produce with their transducers to be able to perceive in an alien medium<sup>9</sup>.



Figure 3. ‘Transducers’ designed by the students to learn the flows of materials enjoyed by the hosts.  
Photo: Marta Couto and Jorge de la Vega

A similar thing happened with the keyword ‘taskscape’, a somewhat esoteric term which Ingold introduced in his book *The Perception of the Environment* to explain how a landscape can be understood as the continuous reshaping by the activities of the peoples and things that make a life there. Students were asked to capture the ‘taskscape’ of this part of the Mediterranean by recording several agents in the landscape, in video, and trying to edit it as a very short piece in which they found the life rhythms and correspondences between those agents. Reviewing those exercises the concepts could be also reviewed and explained further<sup>10</sup>. This is how the keywords became triggers or catalysts for the individual and collective reflective process around the experience of designing-while-learning with/from real people.

At the end of the first part of the course, we prepared an exhibition in which the students could show what they had learnt from learning-anew such familiar places. They developed an installation meant to let the visitor experience the territory in question from their hosts’ perspective. The hosts themselves were invited and there was a very interesting discussion on

how the exhibition had made them think of their own rebuilt lives anew. For example, a migrant working as a paragliding instructor reflected in how he had seen the landscape change with urban developments from the air. This spoke to O’Reilly’s idea that hosts and guests keep exchanging places in their roles as apprentices and teachers.

In the latter part of the first year and first iteration of the course, the architecture students used what they had learned with the migrants to redesign the landscapes of their study in what we called a participant construction practice (intended as a parallel to the method of participant observation that anthropologists use). Interestingly, as seen in Figure 4, in this model of working with the students, the prospective design work was still made after, and to some extent apart from, the learning or research component (carried out with the migrant hosts). Student Paula Pastor, for example, designed some pathways and structures that would become a vantage point to look at the ever-changing character of the rocks under different light patterns. Though this work of design took in account what was learned with the migrant host, we didn’t yet found a way to make it together, as part of the process of learning from them. We could say that these works were still an intervention but not an *intravention*. This gap between social research and design practice is why, looking ahead to the next year’s iteration of the course, it was decided to orient the course so as to challenge this temporal separation. We realised that it was one too often found in Design and Anthropology collaborations that remained stuck with Anthropology characterised as the historically-focused observer and describer, and Design as the future-looking creator<sup>11</sup>.

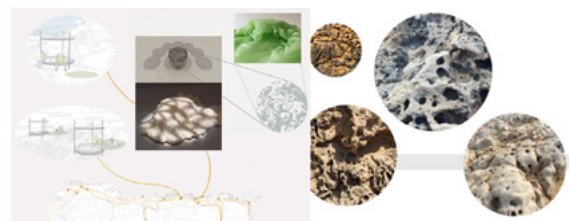


Figure 4. Rock Shapes and Intervention, 2015. The designs students made in a previous edition of the course were made after the design-anthropology research, not at the same time, and thus are still thought of as abstract objects. Photo: Paula Pastor

**Intraventions: Playful, Sensitive Engagements with**



### the Human and More-Than-Human

In the second iteration of the course, in 2016, the focus shifted slightly to consider what working with the place, its materials, weather patterns, landscape and cultural forms might lead to. Drawing from the experience of the Anthropologist-author, we were looking for other concepts and practices that would lead the students to have an enjoyable designing and building experience in these place. As we thought practically about the way in which we might work on this, and in such a way that we did not abandon what we learnt with/from the lifestyle migrants, we considered different methodological options. Discovering the work of Alberto Altes Arlandis and Oren Lieberman, who also work at the junction of Anthropology and Architecture, we chose to adopt their rather playful idea of the *intravention* in order to emphasise architecture as process and (in the ‘intra’) the way in which making architecture, or ‘to architect’, is always already situated within places and times.<sup>12</sup> Another addition to our growing lexicon, it seemed possible to characterise the *intravention* by its enjoyable and temporary nature and as such it spoke to us of coastal pursuits on the beaches and cliffs such as paragliding and sandcastle-building.

Altés Arlandis and Lieberman’s (2013) *intravention* is typically a short-term historically-sensitive action in the urban landscape’s interstices<sup>13</sup>. They use the term to overshadow the central role of the building in the practice of architecture and to focus instead on the desire of their students to affect the world, or ‘to architect’ as a verb, as they put it. For them, quite like Lefebvre and Gaviria, their project is political, and they seem driven to develop a method that reflects what Jeremy Till would call Architecture’s dependency<sup>14</sup>:

Underlying our critique is a position that architecture is not an autonomous entity that is devised in the architect’s studio on the basis of his/her capacities as ‘genius’ and through some kind of obscure, almost magical process and then deployed on a pre-existing piece of land. Rather, it is a complex and relational practice that comes about in various ‘fields’, and takes place in collaboration with things and people, and is always material as well as cultural and political and technological and artistic and, and... It is a practiced practice, involving many different actors, people, institutions and apparatuses.<sup>15</sup>

Intraventions therefore, reflect an image of

architecture much as we see it and as that which we are striving for. As a method, intraventions also allow us to advance in the intermingling of disciplines, as they speak to an anthropological way of researching that is to attempt to defer to local wisdom and provide opportunity to see things anew, whilst also contributing materially and quite directly to a place. They have a playful, material and Situationist vibe, and they are offering tools with which to investigate Lefebvre’s proposals of an Architecture of Enjoyment: as Altés Arlandis and Lieberman say, the performative methods for intravention heightens our ‘techniques of the body’.<sup>16</sup>



Figure 5. A student showing the intravention made with several other students. Author: Marta Couto, Adrián de Arriba and Katia Vázquez

For us, the intraventions generated by the students in the second year/second iteration of the course took shape in various ways as the students engaged with/in the flows of materials that are in continuous movement along the lines of the coast. The idea of intravening within places, we thought, could perhaps capture Anthropology’s characterising quality of being both ‘grassroots-up’ so-to-speak, and inquisitive – to an extent provocative – in order to elucidate social orders and patterns. Anthropologists regularly use their ‘outsider’ participation in everyday life and their own intentional dislocation (to that specific place) to try to highlight and understand aspects of the society that might not normally be explicit. Their displacement and provocation-by-way-of-being-newcomer/other helps to see where people put boundaries and limits, how they categorise and value and evaluate. Intraventions, playful as they might be, are made with the wider context and web of relations around them in

mind, and so, they are able to test and probe this very environment, explore and better understand it, through being within it and making within it.

Our aim with this course was and is not only to see the pleasure in the designing, making and using of these places, but also to 'see them anew' in terms of their material, changing and socio-political natures. For all the participants, including members of the public engaged by the intraventions, the modernist sun-seeker resorts and their everyday socio-material practices are the grounds for our testing of the relationship between not only enjoyment and architecture, but also between the design of architecture and the everyday lives of the people that dwell within it. Making architectures of enjoyment allows us to see environments that are changing through nature's regenerative capabilities and affordances, and through communities' own participation, direction and empowerment. Our intraventions playfully use the materials of the urban beach environment (sand, rocks, water and concrete predominantly) and invite temporary and collaborative public constructions, which are joyful in their nature. Looking at material processes going on in the rebuilding of this pleasant environment can bring us to new ways of understanding our bodily relations to materials that could lead to new ways of designing with the world.

## Conclusion

In this paper we have reviewed two Design Courses in Architecture in which an anthropologist and an architect have worked together with students to explore ways of designing with people and things that inhabit a place that is familiar to the students.

This is not a straightforward live-project in which a course is based in designing a building for a community in 'the real world', but we think it shows well how architectural education can link together University life and wider society to explore possibilities of conviviality. The course is one in which people coming from different origins get to know each other and work together. It explores how these people (all that are involved, not just students) can imagine ways of living in an environment while taking care of it, precisely because of or through the medium of their enjoyment of this environment or joyful experiences of and within it. These experiences are ones that involve the whole body and broad sensory engagement: from gazing at

sunsets from vantage points, to climbing cliffs, and gauging waves and wind power by making sails; from swimming in the sea and sunning oneself on a beach to paddle-surfing and making net-swings hanging below cliffs!

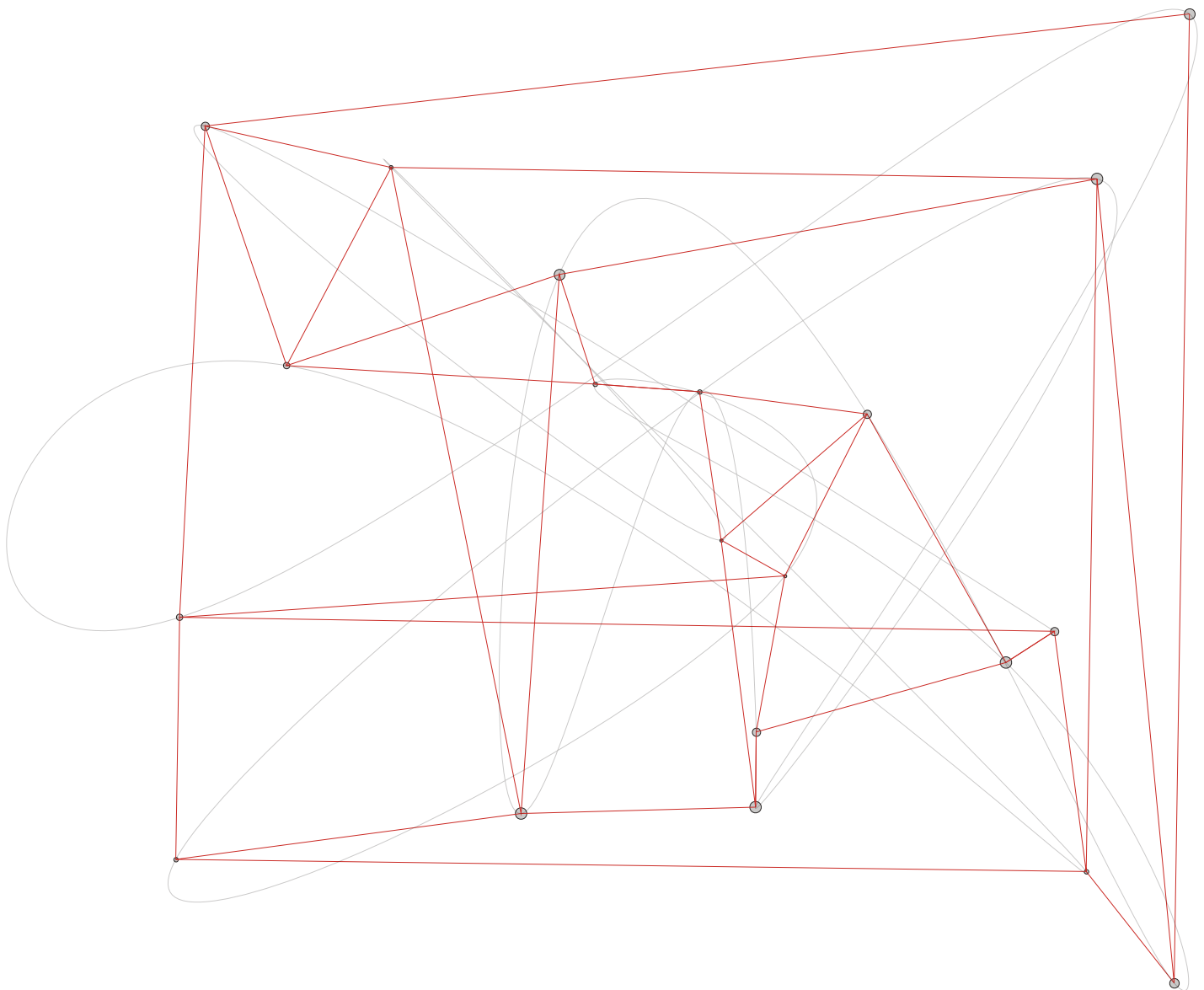
In our case, we think that the *intraventions* made by the students, teach us numerous things. Firstly, they highlight Architecture's possibility of including the total body in the design processes through *enjoyment in making*. Secondly, they demonstrate the need to work from the inside of material and social flows to activate this possibility. Thirdly, they teach us the necessity of developing design tools for listening and working with people and a changing material environment. Finally, they have shown us that designing architecture can be fruitfully understood as growing and caring for not just a building, but also people, things and place – a practice brought about by and characterised by pleasurable and enskilling making practices. Looking ahead, how individual practices come to a communitarian scale remains as something that we wish to explore further. Through our discussions we have come to think that there is much to learn from the collective work in eco-building that the anthropologist author has researched. The experience with bigger and collective intraventions and exhibitions has made us think that this could be an interesting approach to use in attempts help build community ties between the migrants and locals that inhabit these places. As well as helping people to relate to one another, these methods of learning-with seem also to bring into the community the other things that inhabit and constitute our places and make them rich ecologies.

Putting the practitioner in the centre (and this is not only the architect as practitioner, but *all* the inhabitants) and attending to place, materials and flux as an apprentice-to or keen learner of how life is lived here, an architecture of enjoyment is therefore the *enjoying of the co-production of architecture*. Emergent from our transdisciplinary collaborations, this idea of enjoyment has helped us to refocus on architecture as a living process, and as a process that is 'intra' or done from the inside of living in and caring for our dynamic world.

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## 1.7 ACTIVISM



# The value of the architect. The participatory design of a common ethos.

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## ABSTRACT

Drawing from philosopher Karsten Harries' proposition that the task of architecture is that of helping to articulate a common ethos in order to help us dwell in a disorienting world, this paper closely tracks the slow, complex, messy process of defining a common ethos for the community-led redevelopment of a small civic space in Grangetown, Cardiff. A long-term Grangetown - Cardiff University partnership has co-produced an annual cycle of public celebrations and action research between residents and architectural students. Preceding the architectural design, or even the design brief for a civic pavilion and garden, the contributions of architectural students are examined here as supporting the gathering of community in order to articulate a common ethos.

**KEYWORDS** public interest design, participatory design, appreciative inquiry, live projects

In *The Ethical Function of Architecture*, philosopher Karsten Harries referenced architecture's 'ethical function' as 'its task to help articulate a common ethos.' Ethos, Harries proposed, 'names the way human beings exist in the world: their way of dwelling.'<sup>1</sup> Reflecting upon architecture's hermeneutic role in supporting the attempt to articulate a common ethos in 'an ever more disorienting world', Harries argued that if architecture is to offer more than functional shelter, the problem of architecture and community cannot be divorced. 'Only if we are capable of dwelling, then can we build',<sup>2</sup> Harries concluded, referencing dwelling in a Heideggerian sense. This definition of the role of architecture as supporting the articulation of a common ethos has framed our ongoing approach to a long term multi-disciplinary teaching, research, professional services and volunteering partnership between Cardiff University and communities of Grangetown.

To date, five years of an annual cycle of co-produced events and reflections between residents and students have played a central role in helping to gather an idea of community within a common space, supporting an evolving definition of what a common ethos could mean to those who live, work and spend time in Grangetown. We have come to understand our role as listening, interpreting and re-presenting community voices through devices of storytelling, rather than - to the surprise of residents, tutors and students - the architectural design of a building. As Awan, Schneider and Till observe, architectural skills may be deployed and developed in settings beyond that of the design of an architectural artefact.<sup>3</sup> Collaborative teaching and research, negotiating a path through principles of appreciative inquiry, participatory design, co-production, action research and grounded theory, and our role as both researcher and participant, has helped shape an understanding of



the value and skills architectural students, educators and practitioners bring to the participatory design of a common ethos. This paper, closely tracking five years of daily communications between an extended team of protagonists, reflects upon the development of this understanding, and the complexities, challenges, messy realities and common ground we have encountered along the way.

In 2012, a resident of Grangetown, Cardiff, approached a local Councillor in a weekly surgery to discuss the potential of converting a small vacant Caretaker's House near a popular neighbourhood park, which had no café or toilet facilities, into a place to have a cup of coffee and a bookable community room, an idea which had emerged from daily conversations between parents at a school bus-stop. With the hope of coaxing an idea into action, rather than holding any intention of running or managing a facility, early conversations began with discussions of what quality and value would mean in an urban neighbourhood which was often defined by more negative expectations. The Councillor mentioned the possibility of a Community Asset Transfer, and, encouraged, a group of residents began meeting around kitchen tables to discuss what one email described as 'a question, rather than a definitive set of expectations or resolved framework' with the intent 'just to get an idea of what a few others might wish to see take place and would think is worth the effort'.<sup>4</sup>



Figure 1. Grange Gardens Ideas Picnic, (Vertical Studio Unit 2014, Unit leaders Mhairi McVicar, WSA and Richard Powell, Grange Pavilion project)

The group around the kitchen table made no claim of representing 'the' community of Grangetown. Their aim, later defined as creating 'a vibrant,

friendly community facility where people of all backgrounds can connect and are made welcome',<sup>5</sup> was a simultaneously simple and extraordinarily complex idea. The core challenge identified by the group was that of how to bring together Grangetown's diverse communities to establish what a space for all might mean.

When the Council redirected the residents to consider taking on the development of a 1962 Council-owned Bowls Pavilion and green, located in the park itself and recently vacated due to austerity funding cuts, the project began in earnest, and a simple idea developed into an endeavour which has closely involved, to date, over 270 residents, students, and council, university and third sector representatives each engaged in supporting a 'bottom-up' proposal to create a space for all, as well as over 2000 participants in public events. 'To be experienced as a genuine centre', Harries had written, 'a place must be experienced as gathering a multitude into a community',<sup>6</sup> a task recognised as pertinent in Grangetown.

### Grangetown, Cardiff

Grangetown, located between Cardiff Bay and Cardiff City Centre, is Cardiff's largest and most ethnically diverse electoral ward. With a population of nearly 20,000 residents including Welsh, English, Somali, Indian, Pakistani and Polish residents, Grangetown's diversity is consistently described by residents as a key strength, but one which is threatened by a lack of a common space for all. In 2013, resident feedback at an open event noted the first task as being that of getting to know who a Grangetown community might be:

*Grangetown doesn't feel like it has a centre where the whole community can meet. At the moment, the community is made up of pockets of different cultural populations who mix in either the mosque, the temple, the pub, church- but they do not mix in one place. Firstly we should get to know the local population to find out what they want. We should involve them in every part of the project so that they feel ownership + ultimately run the place.*<sup>7</sup>

Although the Index of Multiple Deprivation highlights significant challenges in Grangetown as including poor health, child poverty and unemployment,<sup>8</sup> a resident emphasised the importance

of ‘creating the notion of belief in the people, in the area.’<sup>9</sup> This statement formed the foundation of a long-term partnership approach in working with residents and students in first identifying and celebrating the value of existing strengths, both in its physical environment and in the skills, expertise, commitment, and sense of community amongst Grangetown’s residents.

### Community Gateway

Cardiff University’s partnerships in Grangetown began as a proposal from eight academic and professional services staff for an open-ended agenda of collaborating on community-led ideas through multi-disciplinary research, teaching, professional services and volunteering.<sup>10</sup> We prioritised equal and mutually beneficial partnerships, with the intent that skills, resources and expertise should flow in two directions between university and community, and began in 2012 with a series of drop in sessions in Grangetown to gauge interest. Those who came supported a partnership in principal, with the stipulation that the University should be prepared to enter into ‘a relationship and not an affair.’<sup>11</sup> We all understood that these first sessions could act as no more than dipping a toe in the water, acknowledging that drop-in sessions were accessed by those with the time, confidence, network and ‘expertise’ to walk through the door. They acted as a starting point to identify gatekeepers to help us feel our way into the area, and set out principles for our first co-production, in May 2013, between residents and twelve BSc Years 1 and 2 Architecture students in a three-week Vertical Studio format,<sup>12</sup> as a response to residents-led ideas for developing a community space.

In co-writing a brief for a three-week Vertical Studio, we originally anticipated, ambitiously, that the students’ outputs might include a design ‘competition’ brief for a community space. It quickly became clear that the resident group was nowhere near ready, lacking a defined client, user, space, or program, and the students responded instead by talking to people, cycling, walking and observing Grangetown, celebrating Grangetown through a publication-exhibit capturing its history, residents, and public spaces, and gathering tentative ideas for what the task of defining a community space might involve. That the students’ work bypassed architectural design, focusing instead on gathering people and stories, would become a

recurring theme over the next five years. Writing of the communicative value of architecture, Harries noted that ‘this language is inevitably mediated by particular landscapes, particular histories, particular stories.’<sup>13</sup> Our first role, as architects, became that of gathering stories as a means of helping to gather community.



Figure 2. Grange Gardens Ideas Picnic, (Vertical Studio Unit 2014, Unit leaders Mhairi McVicar, WSA and Richard Powell, Grange Pavilion project)

### Ideas Picnic May 2014

The research and analysis of an urban area is, of course, a common first task in almost any architectural brief in a BSc. This, however, for us as educators and practitioners, represented the first time that ongoing research and analysis could take place consecutively over a number of years, building incrementally, year by year, on work by previous students and established resident partners. As progress continued on establishing the residents’ group and Community Gateway, our first public ‘gathering’ event was established by an Ideas Picnic in the vacant Pavilion building itself in May 2014. In writing the brief in the second year of the project, we again imagined that in the second year of the project, we might be ready to progress onto architectural interventions, anticipating that the students would design and set

up a physical pop-up café within a three week Vertical Studio. Instead, we – both tutors and students – found that the problem wasn't, yet, physical, but still that of gathering community. Students directed their efforts towards talking to people in the park, handing out and distributing flyers, baking cakes, and opening up the shutters of the Pavilion building to offer open public access for the first time in its history. They had it spot on. The residents' group noted:

*The students were blown away by the response and numbers that came. A bit of free cake and tea was always going to draw a crowd, and Grangetown excelled itself. We are now sorting through the comments and ideas that were flying about on the day, the general consensus is:*

1. *the area needs this as a 'hub' around which to build/rebuild the community.*
2. *anything that does happen has to happen quickly.*
3. *it should be 'community led'*
4. *yes, there is real need for quality within the area*
5. *where's the money coming from?*
6. *What we really need is...*
7. *and lastly, I'm more than happy you are going to do it, because...*<sup>14</sup>

Free tea and cake in a park on a sunny day attracted more people, confirmed a desire for a hub, for quality, for community-led action. The public event led by the students provided momentum, a belief that things could start to happen, and the confidence to start developing an expression of interest for a community-asset transfer. This fundamentally altered the nature of the project from that of long speculative conversations around kitchen tables to the task of preparing paperwork and the necessity to demonstrate a formalised organisation structure as outlined by Cardiff Council's 'Stepping Up' program.

### Community Asset Transfers

From a functional perspective, Community Asset Transfer has been defined as a mechanism which allows for the 'change in management and / or ownership of land or buildings, from public bodies, (most commonly local authorities), to communities, (community and voluntary sector groups, community enterprises, and social enterprises).'<sup>15</sup> This process is described as aiming to increase participation and community empowerment by giving citizens opportunities to take over the organisation and

administration of public assets.<sup>16</sup> Cardiff Council's 'Stepping Up Toolkit' gives a contextual explanation of the need for community asset transfers:

*In this 'age of austerity' public bodies have been under increasing pressure to find new and more efficient ways of delivering their services. This has impacted across the board, but perhaps no more so than on community services delivered at a local level. The situation demands a creative response. Local communities have traditionally been very resourceful in acting to help themselves. Indeed, community organisations have been at the very heart of local service delivery for decades. The need and the opportunity, however, is to enable more community-led activities to take place. To encourage more volunteers to 'step up' and take over the management of services and assets in their own communities.*<sup>17</sup>

Aiming the tool kit at 'people and organisations that work at a neighbourhood or community level in Cardiff', the document provided definitions of 'organisations' as including 'individuals or groups of people coming together for the first time for a specific purpose, to deliver a particular service or building under threat of closure.'<sup>18</sup> Any group taking on an asset, the document outlined, should establish clear objectives for the community project, build the capacity to see the project through, prove that any proposals were feasible, develop a business case which stacked up, and deliver real benefits to the community,<sup>19</sup> tasks which were daunting to the evolving residents' group.

'Presently', the resident group wrote in 2013, 'the project consists of a good case which has been well put to the council, a growing catalogue of local knowledge, a lot of positive interest and good will from those who know about it in the Council.'<sup>20</sup> Acknowledging that the project could offer exciting possibilities, the group also noted that it could 'become an all-consuming project that would overpower those who were tempted to step in.'<sup>21</sup> Emails passed around the residents group start to show the challenges encountered as the project became formalised towards the development of a first Expression of Interest for a Community Asset Transfer.

### Translating positivity into committed action

By 2014, the challenge of 'pulling together many threads within the community and other interested parties'<sup>22</sup> was still forefront, and the desire to remain

as fluid and as open to all for as long as possible was challenging the groups' ability to develop comprehensive business plans within limited time frames, a challenge that, one resident had suggested, could be supported by 'stable long term partnerships with organisations and institutions that can offer guidance and security to the programme.'<sup>23</sup> As the demands of paperwork increased, it was noted that "anyone can be positive towards an 'idea' such as this, it's how that positivity translates into committed action,"<sup>24</sup> particularly when long stretches of time without apparent action - at least to anyone not embedded in the process - threatened interest and trust.

'Any project of this diverse constituency (community) kind needs to maintain public momentum and cohesion when things are apparently not happening',<sup>25</sup> a resident noted in January 2015 during a seasonal lull in activities. A core challenge remained that of how 'to identify and encourage individuals and groups from within that community to take an active role in the long haul, as well as in the fun bits at the end.'<sup>26</sup> Even identifying who should be on the groups' email list was challenging, with a resident noting that 'I'm trying to figure out who exactly is a (willing) member of our group, officially or not.'<sup>27</sup> The group, now taking on tasks which included significant commitment, time and effort, continued trying to strike a balance between being inclusive, whilst not overwhelming anyone with the sheer volume of communication and depth of commitment involved. In January 2015, the group noted:

*[The Council] proposed that the building be passed to 'us', on a 'peppercorn' rent', sometime close to within the next three months. Note, Rent. The offer is there on the condition that we can prove ready and able to fulfil at least a part of the social programme so sketchily outlined, so far. I indicated joy as well as uncertainty, (as I'm not sure how ready we are).<sup>28</sup>*

With this first formal recognition, the need to ensure representation and engagement throughout the wider communities within Grangetown became a priority. The annual cycle of a co-produced Vertical Studio offered the possibility of targeted outreach and the momentum of quick and tangible public action.

### Concepts of community: Love Grangetown

'Here in Grangetown', a resident later summarised, 'there are many communities, some communities packed within their own community (a Russian doll demographic-locality), and so are difficult to reach and exchange ideas with.'<sup>29</sup> Marilyn Taylor of the Institute of Volunteering Research has noted that 'community is defined as much by THEM as by US. It can be both oppressive and exclusive.'<sup>30</sup> This can be understood to lead to the exclusion of certain groups from the process, and to this end, the next phase of the University-Community partnership sought to identify and invite representatives from the widest range of Grangetown communities.

The 2015 Vertical Studio launched 'Love Grangetown' as an event for co-produced strategic planning and evaluation, with the aim of ensuring fair representation of key Grangetown demographics, and of developing a strategic framework for Community-University activities. The three-week long consultation, led by Community Gateway project manager Rosie Cripps with researcher Neil Turnbull, introduced appreciative inquiry and co-production in training architectural students and resident partners to act in pairs as community researchers. The brief for students included questioning the role of the architect in developing positive community identity, exploring the value of involving community members at each stage of design, and testing innovative ways of engaging and communicating with local communities. Appreciative inquiry was introduced as:

*a process that promotes positive change (in organisations or communities) by focusing on peak experiences and successes of the past. It relies on interviews and storytelling that draw out these positive memories, and on a collective analysis of the elements of success. This analysis becomes the reference for further community action.<sup>31</sup>*

Pairs of students and community researchers interviewed a wider network of residents' friends and neighbours, bringing 100+ participants together in a day-long workshop and celebration. Visiting mosques, temple, churches, bingo, and local clubs, the teams collected positive memories and visions of Grangetown. Following appreciative inquiry principles of developing an inclusive process to build on what already works and to celebrate what is valued, rather than focusing on 'problem solving', the



interview sessions with close networks invited both student and resident researchers to access deeper into Grangetown communities: to listen, to analyse, and re-present visually the strengths and potentials of Grangetown. Nine key themes were identified by community participants, and community meeting spaces confirmed as the key priority, supporting the first steps towards formally identifying, inviting and forming a community group who would take on long term management of a transferred asset.

### Physically manifesting an intent

In summer 2015, our partnership of residents and university began to negotiate terms for a 12-month temporary License to occupy the Pavilion. The role of the students were crucial in developing the belief to take this on. 'As a community', a resident wrote in June 2015,

*we are beginning to find and have 'voice', but as yet we have little or no authority to ensure a positive outcome. Your students work helps reinforce identity and so provides authority, giving 'us' a further means or power to complete. This is real and valuable work they do.*<sup>32</sup>

The first physical intervention focused again on gathering stories. Working again with the Grange Pavilion residents' group and a local arts organisation, Art Shell, the brief for a year-long BSc3 Unit began with a four-week Storytelling introductory phase, asking students to explore 'how sharing stories might help create a sense of place'. Referencing artist Pierre Hughes' *Streamside Day*<sup>33</sup> and Theaster Gates' Dorchester project, Chicago<sup>34</sup> as examples of artist-led gathering of community through story-making.



Figure 3. Grange Gardens Storytelling event, (BSc3 Unit 1 2015, Unit leaders Mhairi McVicar and Richard Powell of Grange Pavilion Project)

From three years of testing and learning, we had developed an induction of 'principles' for working with Community Gateway. 'This Unit,' our brief noted to students,

*emerges from an ethos of working in collaboration with a geographically defined area over a number of years.*

*We believe it is important to represent Grangetown positively, with the understanding that negative portrayals of a community can reinforce and even create negative feelings about the area. We ask that you focus on what you can do to 'help make Grangetown an even better place', and focus on the breadth and depth of skills, expertise, opportunities and idea emerging from the area.*

*The partnership with Grangetown is equal and mutually beneficial: ideas, skills, resources and expertise flow in two directions between the community and the University.*

To gather stories, the unit began with the design and construction of a storytelling booth and event, as a collaborative construction between residents and architecture students, left in the Pavilion for use by community groups in the space, and as a first physical proof that something was happening.



Figure 4. Love Grangetown 2016, façade shingles (Gemma Gorton, BSc1 in Architectural Studies, Welsh School of Architecture)

The group now began to plan for a temporary renovation to make the building at least fit for pop-up purpose, and to apply for a feasibility study to support a formal Community Asset Transfer and Big Lottery Fund application. This again fundamentally changed the nature of the project, as we now began to develop briefs for architects to tender, to bring an architectural practice into the fold, and began to take on the herculean task of accessing larger scale funding. As researchers and educators, the need to capture and



evidence what had been done offered a crucial moment of analytical reflection within our action research, and to consider what students' insights had uniquely offered the development of the project.

### Next steps

Ongoing work has included Love Grangetown 2016 and 2017 as annual evaluative and planning events. Actions by architectural students to gather foundational information for a design brief for a feasibility study had now included cataloguing of the ideas generated by the ideas picnic, the visualisation of the nine community-identified priorities and of significant memories of life in Grangetown, stories of the Park and Pavilion collected at a Storytelling day, short films documenting the history and value of the Pavilion, a film storyboarding an imagined day of life at the pavilion, and a temporary façade of shingles painted by local kids. All of this has fed into a programmatic brief, capturing a narrative of the ethos developing at the Pavilion as the project moved into a feasibility stage and the firming up of decisions.

'Once consensus is reached', Giancarlo de Carlo noted in *Architecture & Participation*, we tend 'to freeze it into permanent fact.' Suggesting that planning 'with' rather than 'for' people, De Carlo suggests, allows for consensus to remain 'permanently open';

*It is renewed by confrontation with the planned event by adapting it to the demands of a supporting apparatus which keeps redefining itself. In the case of planning 'for', the act of planning remains forever authoritarian and repressive, however liberal the initial intentions. In the case of planning 'with', the act becomes liberating and democratic, stimulating a multiple and continuous participation.*<sup>35</sup>

RIBA's *Guide to Localism* similarly acknowledged that:

*It is widely understood that successful and meaningful engagement depends upon handing over some element of power to local communities, so that they can have a real say in the decision making process and, therefore, design outcomes. Underpinning this is the notion of trust.*<sup>36</sup>

The establishment of trust, and continuous participation has been a complex, slow, messy, and uncertain process. Analysis has revealed the extent to which the insights and resources offered by our architectural students have underpinned the process

over a number of years, and the extent to which engagement has been required to establish the trust of partnership working, well before any consensus for design can begin.

### An analysis of every step

Our research, as a team of academics, students, and residents, has documented every step, on a day to day basis, through emails, meeting notes, feedback from events, interviews, films, photos, flyers, newsletters, tweets, and any other documentation, treating all such documentation, no matter how prosaic, as valuable in revealing insights into the daily steps of the process, and the wider themes which emerge from ongoing conversations.

Our deep involvement in the project as participants and researchers is well captured by Kathy Charmaz' description of Grounded Theory, in which, she notes:

*Researchers are part of the research situation, and their positions, privileges, perspectives, and interactions affect it. In this approach, research always reflects value positions. Thus the problem becomes identifying these positions and weighing their effect on research practice, not denying their existence.*<sup>37</sup>

Charmaz identifies a cycle of collecting and closely reading data, and reflecting upon this through analysis whilst still within a cycle of research. While on the one hand our close proximity to the process and its participants' allows for an 'in-depth' understanding of the process, on the other, it raises methodological issues – how we might distance ourselves from the process to see more objectively what is going on?

To address this issue we developed our understanding of the process through critical writing and analysis and have returned to different actors to elicit further information to fill in the gaps and correct misunderstandings all the time seeking to 'see the world' anew. A key influence in this has been the way in which a new group of students, joining us on an annual basis, have been able to approach the project from a fresh perspective annually, and to reflect on it from a less embedded position.

### The value of an architectural student

To date, we have worked alongside over 200 undergraduate and postgraduate architecture students on varying collaborations in Grangetown since 2013, some directly addressing the Pavilion projects, and



### The value of the architect

In 2012, Gordon Murray noted that ‘Architecture is no longer simply about designing buildings, places and spaces. It has not been for some time.’<sup>38</sup> RIBA’s identification of a ‘landmark moment in the evolution of professional practice’<sup>39</sup> and a growing number of architectural and design practices stretching the boundaries and definitions of engaged practice have informed discussions with our students. An MArch 1 dissertation mapping engagement activities against a 2013 RIBA Plan of Work applauded Stage 0’s insertion into the plan of work as recognising, to some degree, the role of the architect pre-design, but reflected that the three years of engagement we had encountered simply needed to build trust and come closer to a definition of community preceded Stage 0 by some distance. An engagement ‘steps’ model published in Academic Medicine recommended at least a year of ‘no engagement’ to allow trusted relationships to form before piloting preliminary projects in years 2-3, initial partnerships by year 4 and full partnerships following year 5,<sup>40</sup> echoing the pace of our partnership development in Grangetown.

Such time scales are difficult to support in commercial architectural practice. The *Stepping Up* document highlighted that ‘it may be necessary to employ professionals, e.g. an architect’ for feasibility studies’ but tempered this with the caveat that ‘it is often difficult to finance this aspect of the project’, and noted that ‘you may be able to secure some ‘pro-bono’ work (provided by professionals at no charge)’, a suggestion which threatens to undermine the value and the depth of the work required to meaningfully engage a community in co-production.

Interviews with community partners and visitors to events before and after the temporary renovation of the Pavilion emphasised the need for the architect to create a long term relationship, to raise the quality of the expectations, to engender belief, and to listen. ‘They are ‘orchestrators’ creating, as a resident noted, ‘an intellectual envelope in which many things occur, spaces or events occur.’<sup>41</sup> They should, another noted,

*engender a confidence to demand better of everything from the client, the architecture and the funders, and an architect can raise the game and the quality of thinking to answer the question that has been posed [...] the architect can raise the quality of the question and I think that is where they really start to make the difference.*<sup>42</sup>

‘Better architects will stick around and create a relationship’, one comment noted, highlighting fears that architects would ‘move on and leave the inhabitants and the residents behind picking up the pieces’. ‘Who would we trust to come and sort out the mess the year afterwards?’ a resident questioned. Scepticism, too, was applied to architects’ ability to listen and act on feedback, with a resident observing that ‘it is one thing to have post-it notes on the wall, it’s another thing to actually look at them and feed that to inform your practice.’ A core observation which we have brought to teaching was that,

*one of the key criteria, it’s not about the visions but how they understand the us of us.*<sup>43</sup>

Community engagement processes are, of course, complex, messy and take time, as we have learned in Grangetown, and the slow evolution of a partnership with ‘community’, and all the inherent difficulties of determining what ‘community’, are challenging to practically and financially incorporate into architectural practice. We hope that, through a micro-study in closely tracking a small community-led project, we can add to a body of knowledge which reflects upon the scale of commitment and tenacity required to take on such a project, no matter how small.

### The value of the architect

We are still sifting through the accumulated information in ongoing project, as we move into developing a planning application, and the new complexities of pinning down a defined architectural proposal. What we have learned highlights the importance of:

- supporting a cycle of public events to help ‘gather’ communities when a defined community does not exist;
- ‘doing nothing’ at first, other than inviting others to speak, and listening;
- the role of the architect in of raising ambition and belief and of drawing attention to existing value;
- the need to be in it for the long term, to ‘be around to correct the corrections’;
- the threat of formal meetings in killing momentum and enthusiasm.

In these areas, we have found that student input has been able to support longer-term and evolving aspects which a commercial architectural practice might not, yet, be financially and logistically able to

do – most crucially, in listening over a number of years through a series of regular celebratory public events. The student work supported community-led processes, in providing research, analysis and promotion of the project as foundations for a later evolution of a design brief, and supported students in gaining a more critical understanding of the potential value of their architectural knowledge beyond that of design itself. A student observed of their work that ‘Architecture can play a big role in shaping a positive community identity...creating something for people to feel proud of and part of the area.’<sup>44</sup>

This is a dynamic process still under development, but to return to Harries, we have learned above all how delicate, precarious and precious the process is in attempting to create a community space by first defining a community ethos. ‘Like a poem, Harries declared,

*no way of life is given to transparency that it unambiguously declares its meaning. There can be no definitive statement of that meaning; it must be established, ever anew, and precariously, in interpretation.*<sup>45</sup>

We hope that our ongoing partnership supports the establishment, ever anew, of such an interpretation, summarised by a resident who observed of the process of moving into a defined proposal that, ‘it’s a really delicate thing, isn’t it?’<sup>46</sup>

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# Urban Prototyping. When tactical urbanism meets the third teacher concept to improve learning processes.

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## ABSTRACT

Understanding the concept of the 'third teacher' as being what we can learn directly from the space we inhabit, we analyse the unfolding of an Urban Prototyping International Workshop conducted in the city of Recife, Brazil. This international workshop was organized as a part of a larger city program to reintegrate the urbanized margins of the Capibaribe River.

**KEYWORDS** urban prototype, third teacher, tactical urbanism, learning processes

*'If you really want to shift a culture, it's two things: its habits and its habitats – the habits of mind, and the physical environment in which people operate.'*<sup>1</sup>

–Ken Robinson

Thinking about new ways of teaching urbanism is essential to meeting the demands of today's cities. We know that, in order to truly transform *public* spaces into places of exchange and coexistence, we need collective efforts. Simultaneously, in formal and informal learning organisations, we identify a deep desire to transform the traditional teaching and learning habits. But how can we get there?

We truly believe that our commitment to our own urban environment can teach us the way to reach this goal.

In the 1970s, the psychologist Loris Malaguzzi explored, in the Italian city of Reggio Emilia, this idea that the environment is a central element of the teaching process. His pedagogical approach, known as 'third teacher', was developed for all the public day-care centres of this city of 160,000 inhabitants. The success of this approach was widespread in the Anglo-Saxon world, and many schools now follow these principles.

Because we believe that the true learning process arises from direct contact with the problem, its actors and its specificities, we take the concept of the 'third teacher' even further and explore our urban environment as a teacher who can teach us how to build cities.



Figure 1. Recife and Capibaribe River (INCITI)

In this case, learning would be encouraged by the physical experimentation of the space, using both tactical urbanism and urban prototyping methodology for concrete interventions, and for fostering learning processes with students. These methodologies can give us the tools for participatory design by putting together different city actors in testing and developing smaller scale physical urban projects.<sup>2</sup>

*‘Temporary initiatives when integrated as part of a wider street-design process can act as public consultation, at actual scale and in real-time – thus making a project process more inclusive, effective, engaging and efficient.’ –Jan Gehl<sup>3</sup>*

We selected the Capunga Activation, part of a co-construction process for the requalification of the banks of the Capibaribe river in Recife (Brazil), as our urban prototyping case study. This unique experience, a first in Recife, involved the immersion of community, students, architects and urban planners.

The combination of tactical urban planning methods with the traditional strategic urban planning offers the possibility for urban professionals to check the feasibility of imagined solutions. In addition, this technical approach is also a learning process. This project, led by the Federal University of Pernambuco, develops as a living laboratory, and allows researchers and teachers to consider alternative pedagogies outside the classroom.

### Space and Learning: The Third Teacher concept

*‘There are three teachers for children: adults, other children, and their physical environment. The environment is the third teacher.’ –Loris Malaguzzi<sup>4</sup>*

After the teaching revolution perpetrated by Loris Malaguzzi and his colleagues at the preschools in Reggio Emilia, the understanding that the environment

is a direct factor that influences behaviours, and therefore, can induce people to better or worse actions and interactions, was finally given its right importance.<sup>5</sup>

But this was not a new notion. Indeed, with the contributions of Dewey, Piaget, and Vygotsky, the understanding that people, especially children, are influenced by the space they inhabit, is a constant perception in the psychology and pedagogy fields.<sup>6</sup> The difference that makes Malaguzzi’s view closer to our approach, is that he saw the space not only as a tool for transformation, but also as a part of basic learning methods.



Figure 2. Prototyping workshop (INCITI)

For Malaguzzi and his group of teachers, the school should be perceived as a partnership between children, teachers, parents and community, and they should discuss together the path for a better education. They knew that the space played a significant role in pedagogical results. For them, there was a clear connection between pedagogy and space, as they saw the power of ‘place’ as a common and connecting principle.<sup>7</sup>

Research in neural and social sciences tell us that there is a combination between our genetic history and our environment that determines our identity:

*‘Environment cannot be seen just as a context for learning or a passive setting for activities: it’s an integral part of learning and help define their identity.’<sup>8</sup>*

A group of people can connect to each other through the environment they live in, and, in the course of this connection, develop their individual and group identity. In addition, from our point of view, finding a group identity is the key to improving communities.

The dialogue between pedagogy and space contributes to the enrichment of this sense of identity, understanding that learning through relating and

participating in a specific site is a central aspect of education:

*'An environment of daily life continually activated and modified by exploration and research by all protagonists (...) marked by traces of events, social and personal stories, becomes an empathic place, a place of learning and suggestive of actions and change.'* Paola Cavazzoni<sup>9</sup>

Space has a way of bringing everyone together, in the same place and at the same time, to debate and discuss, with people from different backgrounds and ages. This aspect creates a powerful potential for change, by inspiring activity.

In Malaguzzi's own words: 'All this contributes for a sense of well-being and security (...) the space has to be a sort of aquarium that mirrors the ideas, values, attitudes, and cultures of the people who live within it.'<sup>10</sup>

Reggio Emilia's pedagogues also discussed the concept of the school building. They saw the school as a 'community centre', saying that children's centres should be integral parts of the urban plan, a place where the neighbours could meet and discuss. They thought that the school premises should represent a point of reference in the territory.

Translating this idea to urbanism pedagogy, urban prototyping can create this point of reference for the community to encounter and debate about city challenges. When we have a physical place, date, time and theme to work on, we can produce that space for encounters and action.

Besides, urban prototyping is aligned to the concept of 'active pedagogy', understood as the opposite of passive learning, that is, when the learner takes an active role in participation: a learner-centred experience.<sup>11</sup> In comparison with the design studio, urban prototyping intensifies the understanding from the immersion into the learning field, and puts into practice the idea of the city as an educational agent.

*'More recently the close relationship between school and society has been confirmed in growing public awareness of education as a factor in the development of society itself.'* Loris Malaguzzi<sup>12</sup>

The idea of going in situ to debate, resolve and make propositions has an obvious impact on urbanistic studies, but also, contributes to the formation of community itself. As Malaguzzi idealised, we can use pedagogical processes to induce and reinforce the

concept of 'progressive democracy'. Meaning that when we go together as a community through a process of debate, learning and experimentation - conducted in a specific place - we can improve our notions of sharing, hearing, and working together, and in this way improve our democratic interactions.



Figure 3. Collective lunch - Capibaribe River (INCITI)

In conclusion, understanding the concept of the third teacher gives us an open field to explore in terms of urbanistic teaching, and can highlight the importance of workshops, practical learning and urban prototyping at universities, communities and governmental initiatives.

If the space can teach, and every space teaches us something, what kind of learning can we collect from it? Can we learn about its history? Can we learn how the society and its relations moulded the use of the space? These are some of the questions we asked ourselves on conducting this case study experience.

### Urban Prototyping: Capunga Case Study

The Capunga Case Study happened in Recife (Brazil) in 2016, located at a section of a bigger urban requalification project at the riverbanks of the Capibaribe, in the Capunga neighbourhood. The work was organised by a research team from the Federal University of Pernambuco (UFPE), the INCITI - Research and Innovation for the Cities, in partnership with the city hall.

INCITI is a multidisciplinary team composed of practitioners and researchers and coordinated by university professors from the Department of Architecture and Urban Planning. The Secretariat for Environment and Sustainable Development was responsible for overseeing the project inside the Town Hall.

The agreement between a local government (City of Recife) and a federal institution of education



and research (Federal University of the State of Pernambuco - UFPE) is something innovative in a Brazilian context. This political decision is based on a series of guidelines suggested by UFPE to all candidates for the 2012 mayoral election.

Once elected, the Mayor, who endorsed the Capibaribe Park project in his campaign, decided to put this project at the top of the political agenda. Furthermore, this political action took place in the context of the program for the 500th anniversary of Recife, which will happen in 2036, as a milestone to start a more long-term strategic urban planning.

The completed Capibaribe Park Project intends to remodel the 30 km long riverbank, improving the lives of 400,000 Recife inhabitants. The funding for the research group was provided by the Mayor through an agreement fund of 2.5 million dollars spread over a 5 year program, from 2013 to 2017. In return, INCITI has to develop the global urban project for the Capibaribe river Park, and conduct all the participatory planning and design.<sup>13</sup>



Figure 4. Capibaribe Park Project (INCITI)

This kind of partnership seems particularly fruitful for rethinking the modes of teaching architecture and town planning. Since its creation, notably because of the flexibility of the agreement, INCITI will play three main roles: facilitator, prime contractor, and teacher-researcher. These three roles are particularly important to the concept of “activation” which INCITI put at the heart of its approach to this project.

“Activation” as a way of showing that the principles of teaching, research and extensions are indissociable.<sup>14</sup> Although teaching and research principles are well-known concepts, the principle of “extension” can be understood as community outreach. It responds to one of the responsibilities of a public university: the

applied research, involving communities in social improvement.

As an example of this concept, the Capunga Activation was developed. It aimed to co-construct the project together with urban stakeholders, whether they were inhabitants, informal traders, public authorities, or private sector companies.

A collaborative work strategy was implemented, from diagnosis to the development of a prototype, with a series of workshops organised to carry out this project. The whole process was built on the principle of experimentation. It is important to note that different courses (architecture, town planning, civil and environmental engineering) and universities were associated.

The workshop emerged as an appropriate tool for engaging the different actors and, at the same time, training participants in methods of collaborative work.<sup>15</sup> It took different shapes according to its stages. The stages of diagnosis and realisation of the urban prototype are of the first type. In these cases, the workshops took place in situ, the exercise was short and quick and it happened all day long over consecutive days. The formal design of the project was of the second type, it took place in INCITI’s premises, for a duration of two or three hours every two weeks.

For the diagnosis stage, there were three days of residence. Thirty participants identified the conflicts of the territory (day 1), defined principles for intervention (day 2), and tested these principles with a “minor” intervention in the public space (day 3).

After that diagnosis, for 4 months, between ten and forty people met to elaborate the proposal of the Urban Prototyping Project. Finally, for two weeks, about a hundred people (including sixty students) worked to build the prototype of the Capibaribe Park. Accompanied by teachers and facilitators, they designed and built street furniture, public space illumination and street signs.

The challenge of this workshop was to test, in a relatively ephemeral way, some hypotheses and to experiment in the real environment with two main objectives: testing the proposals for further development, and mobilizing the community.

Experimentation carries a strong pedagogical dimension, if it is associated with a reflective practice. Thus, all the workshops were always accompanied by moments of reflection. Every evening during the

realisation and prototyping stage, a discussion was organised with all the participants to reflect on the daily achievements. The objective was, on the one hand, to review daily achievements. On the other hand, to resolve conflicts that may have emerged during the workshop.

These evening reflections were also a space for public debate, to hear and inform the various users of the territory. Indeed, the debate in public space, as well as strict rules of deliberation, favours a better shared distribution of speech,<sup>16</sup> leading to a better shared democratic experience.



Figure 5. Workshop - diagnosis stage (INCITI)



Figure 6. Evening discussion (INCITI)

In this way, the territory, understood as the sum of the constraints of the physical environment in interactions with its actors, defines the rules of this exercise. In addition, the concept of the 'third teacher' seems relevant for defining more clearly the contributions of this real environment to the learning of architecture and urban planning.

### The City as a Learning Place for Democracy

*'Our hope is that a sensitive approach to our surroundings can constitute a positive element for participation and conscious solidarity with others and*

*whit that which surrounds us, an indispensable attitude for the future of democracy and humanity.'*

*–Loris Malaguzzi<sup>17</sup>*

Firstly, we want to interpret the Capunga Urban Prototyping Case Study in light of the 'third teacher' concept. Our objective here is to document and analyse this urban prototyping method. Secondly, we believe in the importance of having a real case study to go deeper into the proposals, and to check the feasibility of the Capibaribe Park Project.

Finally, with this in mind, we advocate for the use of the Urban Prototyping Workshop as a tool for improving these urban projects, a method for urbanistic teaching and learning that allows for participation and co-construction.

As we learned, the concept of 'third teacher' is based on the recognised understanding that the environment plays a major role in forming individuals and society. It does not necessarily need to be mediated by a teacher to engage the learner in a formative experience. As Malaguzzi defends, the environment is not only a tool capable of supporting the work of the pedagogue, but that it is, in itself, a vehicle for society's culture.

Nevertheless, we observe that the 'environment teachings' are preponderant, whatever the pedagogical values it carries. Whether it is an urban prototyping exercise at a riverbank, or a traditional school that puts students in a row and promotes silence, the environment always teaches us something. The question is how to develop its potentials, and to model it according to the social and pedagogical values we want to defend.

The Capunga Activation consolidates the idea that the environment appears as a third teacher, in the sense that the space defines the exercise, together with pedagogical approaches that define some of the rules during the workshop. These rules were created with democratic orientation, and all stakeholders had the opportunity to express themselves with fairness and equality.

As Loris Malaguzzi foresaw, there is a bridge between this kind of learning process and the democratic construction. Besides the physical environment, it is indeed the interactions between the actors that make a territory come to life. Consequently, the solution of territorial problems cannot be achieved without an equitable consideration of their interests, and therefore of their expression and participation.





Figure 7. Inauguration party (INCITI)

Nevertheless, several months later, taking a step back from this experience, what remains?

The urban prototype worked, had a very successful inauguration party, and remained functional for some weeks. Then, the temporary constructions were gradually dismantled and thrown away. This happened mostly because of one of the stakeholders, the Uninassau University, which took an active approach to end the intervention.

Uninassau, a private university, its students and directors, were part of the urban prototyping workshop, mainly because the terrain of the intervention were next to the Uninassau building, but also, because they wanted to lessen the negative impact they have caused with the recent construction of the university. The residents were often complaining about the noise, street parties, informal traders, traffic and lack of respect of the parking laws by the university users.

'I think Uninassau had the understanding that the space was to be a temporary space, and proceeded to discard everything once they thought the workshop was over', said Natan Nigro, one of the facilitators during the prototyping workshop, now working on the continuation of the project inside INCITI's office. 'It was a pity, the place was working fine, so much better than before. The informal traders had continued with the intervention and made some tables for board games', said Mag Gomes, a student that participated in the workshop.

Besides this view of the temporary aspect of the prototype, we can also interpret that Uninassau directors did not want to let that space without their supervision, and also did not want, or know, how to manage that space themselves. Bearing in mind that the workshop was conducted at a public space that does not get maintenance from the city hall at the present.

Today, we can say that the environment has become

again, more or less, what it once was, but its actors have certainly changed. By participating in the reality of the implementation of an urban project, the students could feel the importance of the collaborative process in architecture, even more than the necessity of the technical approach. The contracting authority was able to realise the possibility of working with everyone, even those who are least recognised or organised as groups. The local informal traders created an association to defend their presence and began a process of regularisation. The community could see the interest of actively participating in an urban project, something that often appears very distant.

The co-construction of the territory during these two weeks of workshops created a community around a common objective. Indeed, prototypical approaches correspond to a concrete implementation of the third teacher concept, in the sense that it allows a specific place to foster learning and to be understood as a community centre. In this case, we have been taught that the challenge is not so much the designing of urban spaces itself, as it is to think about the social-economic urban development, to learn how to improve co-construction techniques, or to master the way to maintain this communal places.



Urban prototyping team (INCITI)

It is remarkable to note that, in this defined spatiotemporal place, social inequalities were less perceptible. It seemed that the environment and its transformations created a gap allowing for a dialogue between the urban actors without a total reproduction of the domination phenomena, whether social, racial or sexist.

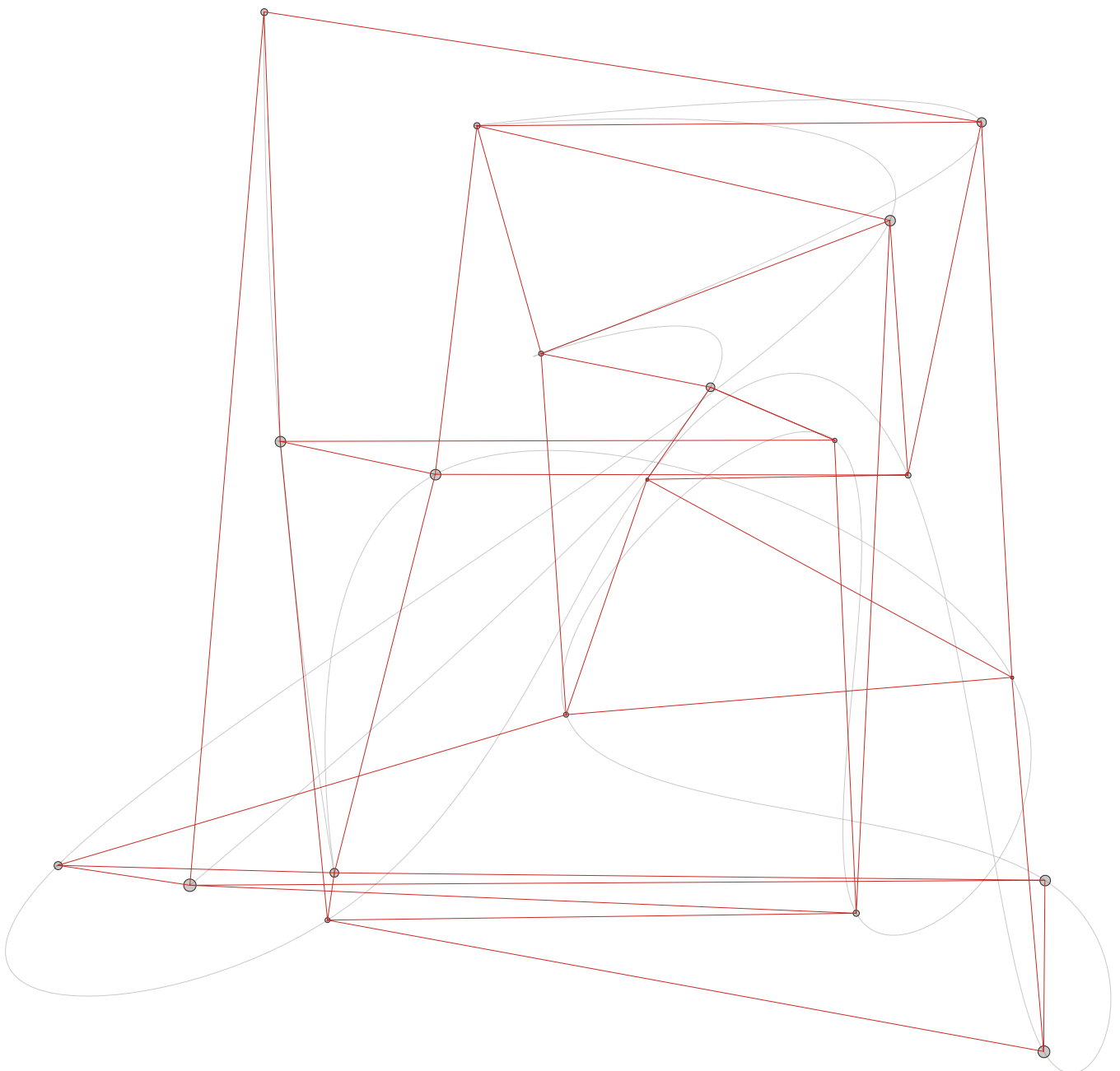
So today, we can conclude that this experience showed each participant that it was possible to engage and participate, and that we could start over and work together again if we wanted.

The environment, the space we have created together, even if not transformed in the long-term, remains in the collective memory. The urban prototype seems to be a remarkable way of rethinking the city's production. Indeed, an interesting prospect for a more democratic, socially inclusive and sustainable city.

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## 1.8 IDENTITY



# Enhancing Local Identity through Fostering Research-based Education in Architecture.

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## ABSTRACT

This paper emerged from the strong belief in the importance of research-based education for enhancing local identity in modern architectural practice and education of young architects today. It proposes an alternative teaching approach, introduced at the Faculty of Architecture, University of Belgrade, in the academic years 2014/15 and 2015/16. The main argument presented in the paper is: In order to strengthen the role of architectural history in education and in the profession, content-based teaching should be replaced with pedagogical experimentations, having an emphasis in converting from *teaching* to *learning*.

**KEYWORDS** local identity, research-based education, architecture, place-making, heritage, Belgrade Fortress

## Introduction

A majority of schools of architecture teach architectural history. However, it seems that there is no general agreement on techniques used to make sense of historical events in order to show their importance either for community, or for the architectural practice today. One of the seductions of modern architectural education is that it often operates as a context-free activity. The knowledge students acquire in architectural schools is generally unrelated to place – it is universal expertise of no-place.<sup>1</sup> Architectural education repeatedly happens far away from the real problems and issues related to ‘real places’. The question is how methodologies gained from an understanding of history and historical processes on one side, and place-based methodologies used in problem solving on the other,<sup>2</sup> can serve architectural

design and can contribute to local identity. Apart from being motivated by desire to overcome the division between conceptual knowledge and ‘real-life experience’ within the course presented in this paper, we were seeking ways in which it is possible to become aware and responsible towards a place, and to be connected with it.<sup>3</sup>

The Faculty of Architecture at University in Belgrade was the first, and always the leading school in Serbia, old Yugoslavia, and the Balkans. The earliest steps in the history of teaching architecture in Serbia can be traced back to the first half of the 19th century. Since then, the school has undergone numerous internal changes and teaching reforms to date, and today it is one of the most reputable academic institutions for education in architecture and urbanism not only in this region, but in Europe as well. History



of architecture (at Bachelor level) and Theory of architecture (at Master level) had formerly been taught in the traditional way – by delivering in a lecture theatre mostly. With the Bologna Process, however, the school accepted necessary changes, and lecture time allocated to most of the core courses (general survey courses) was reduced radically. As a result, it was important to find new ways of presenting substantial historical knowledge to the students in a way that they could see immediate benefit for their future profession from it.

In response to these questions and problems, and with a consciously blended theoretically-based and place-based teaching approach applied to a site of significant historical and cultural importance, the elective course New Reading of Architecture was designed for third-year students.

### **Research – Based Education Process**

The main objective of the course has been to prepare students to work in accordance with a research-based knowledge, with full respect for the active interaction between monuments, sites, and contemporary society, so as to develop the sense of an interdisciplinary approach and an awareness of its potential. Likewise, it has been important that students:

- found their design decisions on critical thinking and develop sound judgment and understanding of the community's needs;
- recognise history as a valid resource in studying architecture;
- use local environment as a starting point to learn concepts; *and*
- form a strategy of cultural heritage potentials.

The main goal was that students would come to recognise and hopefully later apply contemporary heritage preservation and presentation methods in accordance with the specificities of people and places.

The location chosen for the students' final design proposals was the Belgrade Fortress; a highly protected historical site which consists of the old citadel and spacious Kalemegdan Park, occupying the central part of Belgrade at the confluence of the River Sava and Danube.

At the beginning of the process, the students were provided with invaluable help by professionals from the Belgrade Fortress organisation,<sup>4</sup> who supplied

significant information in photographs and texts, organised field research and provided an opportunity to collect data (whether from visitors or from the place itself), so as to become aware of possibilities for the activation and advancement of the place and its local identity. Carefully examining the heritage, sensing the authentic context, and contemporary needs for this location, and of visitors, students were asked to look for a new or re-established character of the place and possibilities for small-scale architectural and urban interventions; and to offer a variety of ideas for preservation, revitalisation, and presentation of cultural heritage.

The course was conducted in three phases. The first dealt with the history and theory of architecture through close and critical reading of theoretical treatises on architecture (Vitruvius, Alberti, Serlio, Palladio, Ruskin, etc.). The pedagogical approach in this phase avoided simply communicating basic descriptive facts, but was rather based on the interpretation of theoretical knowledge (architectural treatises) through students' active learning and individual examination, analysis, and presentations of how old (past) architects had approached design when dealing with the existing historical context. Final presentations provoked numerous lively discussions between students, questioning universal messages of architecture and possibilities of their use in modern architectural practice.

The second phase involved researching the local identity of the place through a variety of questionnaires and an individual 'sensate' impression of the place. In this phase, the audio tourist guide, provided by the Belgrade Fortress organisation, was used as a source of knowledge about the Fortress. The students explored the Belgrade Fortress from the tourist's perspective. In the next step, students mapped the Fortress users: their paths, and major concentration areas. According to the findings, the students divided users into two focus groups: tourists and inhabitants, and the inhabitants group into three subgroups: older citizens, small children attended by parents, grandparents or kindergarten teachers and teenagers. The students interviewed users, asking the following questions: How and why do you use the space of the Fortress? What do you know about the Fortress? How long and how frequently do you stay there and on which occasions? What would you like to change?

From experiences gained, and through peer discussions and open dialogue with the Belgrade Fortress organisation in a form of a workshop, students came to the following conclusions:

- a. The audio guide, although very detailed and informative about every cultural monument, did not really give an overview of the Belgrade Fortress as a whole, and did not explain comprehensively the historical context of its development;
- b. Citizens and visitors could not obtain adequate knowledge about connections between monuments, spaces and different historical periods in which different parts of the Fortress were built;
- c. Citizens and visitors needed more interactive ways to understand historical events and built layers, in order to make a personal connection with it.
- d. The local community sees the Fortress as a predominantly tourist destination, thus avoiding peak hours; visiting the Fortress in mornings and evenings, using it as an Urban park.

As a result, the following design decisions for future interventions were proposed:

1. To locate each monument in its particular historical frame;
2. To avoid aimless wandering through the site and focus the attention of visitors on making a diversity of different paths (time-related, structure-related, hidden ambient-related, panorama-related);
3. To emphasise particular spaces providing adequate time to relax, pause, reflect;
4. To explain the continuity of the Fortress structures and their development;
5. To achieve a higher level of communicability and interactivity with the place;
6. To underline values of the cultural landscape that includes Belgrade's everyday lifestyle so as to revive the way that the local community interacts with it;
7. To enhance the local community's engagement and promote good behaviour towards the environment.

The third phase explored individual approaches in affirming historical perspective through the design process. This phase of the process had already been tested separately, within different courses organised by the school. One group of approaches focussed on the investigation of possibilities and models of protection, presentation, renewal, and activation of historic sites, natural and cultural heritage.<sup>5</sup> A second

group considered possible ways of affirming devastated urban areas and neglected sites through small design interventions.<sup>6</sup>

However, within the course New Reading of Architecture, the main idea was to conduct the research in collaboration with an external organisation, in this project the Tourist Organisation of Belgrade and Belgrade Fortress, in order to explore how teaching history as design and design as history and in collaboration with local community needs can challenge traditional academic procedures in an established school of architecture and actually invigorate new paths to students' creativity and responsibility.

### **Complexity of Students' Design Proposals**

After analysis and establishment of the site conditions, and assessment of potential interaction between the projects, the local organisation in charge of the Fortress, the environment, and the community, students prepared their final proposals. Outcomes have revealed students' ability to think about heritage in a holistic way and to address key issues in the process of redefining historic and cultural layers on the one hand, and spatial framework of the landscape on the other. Students have learned not only to recognise the potential of the built heritage, and to use it without a strict prescription or universal rules, but also to transform its potential to abstract forms and patterns, and to translate them into new architecture with a human scale.

None of the designs should be evaluated only according to the appearance of the outcome, but for the sound research process, and spectrum of various events it offers. Each design decision has relation to the inherited structures, considering a degree of animation of natural scenery and the importance of establishing dialogue between both groups of users (tourists and inhabitants) with the environment. The main direction throughout all phases of the students' research was to determine the extent to which new design proposals could be imposed upon a protected landscape, to create both a pleasurable environment and a vibrant space of diverse social activities.

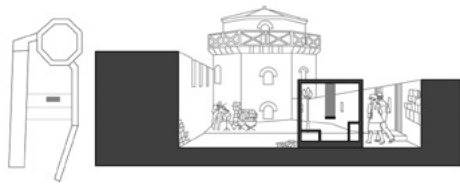


Figure 1. R1. The Bench.  
Student, Milica Nikolic

Looking for places that will adorn Kalemegdan Park and point to the particular historical sites on one side, and to respond to the insufficient engagement of the local community on the other, the design superimposes the need for the place to relax and reflect with particular historically important views. The “bench” represents a focal point, framed view and a place to rest and spend time in harmony with the surrounding environment. Made of wood and carved to reflect the historical layers of the Fortress, the design model represents a contemporary interpretation of the bench—a traditional ingredient of an urban park.



Figure 2. R2. Water-city.  
Student, Jovana Lukic

The Water-city design is a field of light strings inspired by the dynamism and bustle of the past. It explores the recreational potential of the place, but also with an idea to raise awareness of the upcoming climate change. It is launched by the movement of the strings against the wind, affirmed through a particular labyrinth of light and stressed with the overall appearance and chosen blue colour to engage reflexive thinking of the possible consequences of climate change (flooding).

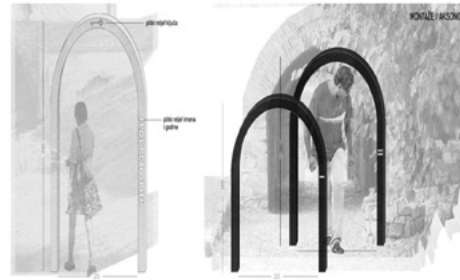


Figure 3. R3. TimeGate.  
Student, Irena Nikolic

This design proposal engages with two distinguished problems: insufficient comprehensiveness of the historical context and poor interactivity of the place. It resulted from that part of the research conclusion that visualises a historical timeline for Belgrade Fortress. The design creates a playground of arches which in their shape, height, structure, material, as well as through hidden messages carved in it, communicate a multi-layered story of the Fortress in an un-obstructive and playful way.

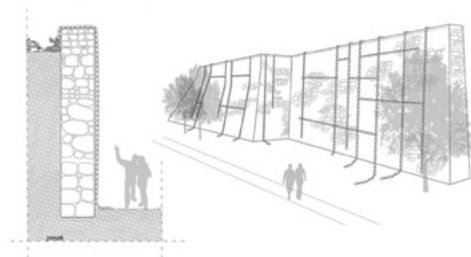


Figure 4. R4. Custom-made necklace. Student, Teodora Tasic

This design proposal focuses on the indistinct character of the Fortress defence walls and poor interactivity of the place. Defence walls are the most exposed feature of the Fortress, but also the most disregarded one. During the day they are unnoticed, and at night it is almost impossible to see the structure of the defence walls. The proposed design creates a “necklace” for it using a stone pattern for two reasons: not to jeopardize its day appearance and to highlight it at night. The materiality indirectly associates with iron protection shields that fighters carried during battles.

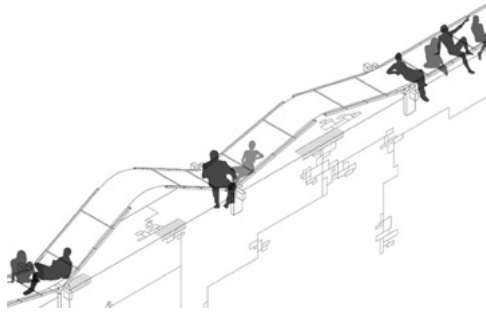


Figure 5. R5. Sitting at the top of the Fortress. Student, Tihomir Dacic

The most unusual feature of Belgrade Fortress today is the opportunity to walk along the walls unattended and to use it as a leisure resource. The proposed design, pointing to engagement, interactivity, and accessibility introduces a new mechanism for sitting on the walls and affirming particular spots and viewpoints. The most exquisite features are its flexibility and mobility reminding us of the idea of the defence wall cutting edge.

Results vary from inspired associations to creative dialogues, from designs that complement to those that contrast with the surroundings, from those intended for tourists to those engaging local community. Although the diverse concepts have produced a series of diametrically different solutions, they all are affirmative of the revitalisation of Belgrade Fortress and Kalemegdan Park. Solutions may vary in terms of dispositions, size, program, and scope; however, they are united in terms of complementing the materiality and sensuality of the place by relating the designed to the inherited structures.

Although without a proposed typology or strict brief the students realised that both program and space are primarily dependent on the character of the place. In an apprehensive, inventive and moreover communicative way, with use of lightweight, easy-manageable structures, as well as through an architecture that uses principles of designing with light, through palpable and sound sensibility, students' designs show that it is possible:

1. To draw attention to the context in which monuments and places were originally built (R3, R4);
2. To successfully revive the historical time-line of events, as well as a variety of cultural layers the Fortress treasures (R2, R3);

3. To point out a diversity of program and ambient related paths, as a mechanism of appreciation and understanding of the place (R1, R2, R3, R5);
4. To map and affirm places of particular character – gardens of reflexive relaxation (R1, R2, R5);
5. To underline community engagement through playing with the landscape (R1, R2, R3, R5); *and last but not least,*
6. To add a somewhat liveable Belgrade-ian everyday spirit that favours hidden places away from the crowd and consumer-led society, engaging the local community in new, and yet to be explored ways with this unique landscape (R1, R2, R5).

Finally, it is important to underline that interactivity, connectivity, and accessibility were the leading forces standing behind design proposals. These were the perfect design tools and the main motives of the project - affirmation and illumination of the comprehensive nature of the Fortress historical layers and its logic of spatial organisation.

All students' proposals have demonstrated architectural history as relevant in teaching architecture and understanding the local identity of heritage. Learning from history by not trying simply to emulate it, and from the place by not simply trying to redraw it, but rather to use both in a way relevant to the students and their own design in accordance with community needs can and should be seen as a legitimate approach to teaching architecture today, and is an alternative teaching approach we propose and have tried to introduce through this elective course.

### Challenges and Pedagogical Outcomes of the Course

It was a very complex endeavour to develop an innovative course that connects history of architecture, theory, sense of place and design, including at the same time the use of external collaborations. However, there were many challenges around the decision-making and the pedagogical approaches that informed it.

Firstly, a sequential and interrelated series of exercises that the course consists of, although each having a clear research and design limit from the beginning of the semester, still had an experimental approach that did not guarantee the refined project outcomes achieved at the end of the process. That experimental approach encouraged the students' curiosity and provided a strong foundation for the exploration of simple and complex forms, materiality

and possibilities for their expression. The importance placed on experimentation and risk-taking has turned out to be commendable, giving great conceptual richness and educational potential.

Secondly, the community engagement feature of the design offered a commendable integration of architectural history with community, and conservation of existing heritage with construction of “something new”, showing creative and exploratory exuberance, and complexity in investigation and resolution. In the absence of an explicit theoretical framework or an architectural program or building type that dominates the brief in advance, the brief was actually defined by the students themselves. Such an approach helped students to create architectural designs through the exercise of knowledge, imagination, judgment and professional responsibility. They investigated through creative architectural propositions what the different perceptions viewers (visitors, inhabitants, architect) can bring to architectural space. They also recognised the need to sustain the natural and the built environment, and the needs and aspirations of building users and the community, in the formulation of design concepts. They managed to comply with the basic regulations controlling building design, procurement and the practice of architecture, communicating the design concepts clearly and persuasively.

When curriculum mirrors education in close contact with the surrounding environment, local communities and public facilities, the boundaries between schooling and life become more blurred and thus, more integrated. The methodology of this course contributed not only to solving problems concerning the affirmation of highly protected environments, but also participated in raising appropriate general awareness on the overall goal of architecture – to mutually bond places and people in a sensible and responsible way. Architectural design thus becomes a tool for reaching a higher quality of life and active involvement of people in deepening their engagement and awareness of the place.

Anyone who teaches architecture knows that educating students to become architects involves more than just inculcating the knowledge, skills, and abilities reified in the school curriculum. This paper highlights the necessity for introducing the concept of interlocking theory-based education with both

place-based pedagogy, and community and public facility engagement, at the Bachelor level of academic education. It likewise identifies the necessity of implementing the goals of this teaching approach into all aspects of the architectural curriculum.

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# Cultural Exchange. Production of architectural knowledge between Australia, Japan and the United Kingdom.

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## **ABSTRACT**

An ongoing collaboration with Momoyo Kaijima from Tokyo architecture practice Atelier Bow-Wow, and her laboratory at the University of Tsukuba in Japan over a period of nine years, based on an ethos of cultural exchange, has resulted in the accumulative production of architectural knowledge, through research, workshops, symposia, field trips, studio collaborations, and architectural projects in Australia, Japan, and the United Kingdom. Atelier Bow-Wow gave their first public lecture in Brisbane, Australia in 2008, at the Institute of Modern Art (IMA). This visit sharpened their interest in the local timber house idiom. Subsequently, students from Kaijima Laboratory, and Tsukamoto Laboratory, took part in the Local Detached Timber House and Urban Veranda Phenomena symposium at the IMA, in 2009, that provided a platform for an investigation of what is known locally as the “Queensland House”, and “urban veranda” research, detected in Brisbane’s CBD and inner city, by Masters and PhD students from Tsukamoto Laboratory at Tokyo Institute of Technology. At this time Momoyo Kaijima developed an interest in the local practice of moving houses. This became a topic of research in her laboratory. The symposium was run in parallel with the ‘Lively Seedings’, Vibrant Laneways Small Spaces Workshop, conducted under the auspices of the Brisbane City Council, tasked with developing strategies for the revitalisation of city laneways. Material generated from the symposium and workshop informed a Bachelor of Architecture third year design studio, run in the School of Architecture at the University of Queensland, which introduced design thinking at an urban scale.

Between 2011 and 2016, travelling studios, and research projects were run in Australia, Japan and the United Kingdom. Students from Kaijima Laboratory travelled to Northern New South Wales in Australia, and in 2016, to Scarborough in Yorkshire. Briefs were written to allow an investigation of the revitalisation of regional communities, an issue common to Australia, Japan, and the United Kingdom. This theme was selected in the wake of the 2011 Tōhoku earthquake and tsunami. Students from Queensland undertook field trips to the Oshika Peninsula, near Sendai, in the Tōhoku region, and in 2015 representatives of the village of Momonoura travelled to Tasmania in Australia to observe oyster farming practices, and other case studies, to assist efforts to rebuild their communities. In 2015 the house project, House in Hamilton, a collaboration between Tato architects, based in Kobe, Japan, and Phorm Architecture and Design in Brisbane, was completed, facilitated through connections made at the symposium that took place in 2009, and informed by a shared interest in the local timber house idiom. These events, studios, and projects that have taken place over a nine year period, involving architecture schools, students, researchers, practices, and communities in three countries, are a demonstration of the effectiveness

that can be achieved at all levels of architectural culture, from a commitment to a long term investment in cultural exchange.

**KEYWORDS** cultural exchange, resilience, co-production, agility, multi-disciplinary

This paper will give an account of interactions with Japanese architects Atelier Bow-Wow, in particular Momoyo Kaijima, and her teaching laboratory situated within the School of Art and Design at the University of Tsukuba, over a nine year period, in teaching, research, workshop, field trip, and community project settings, that have yielded a productive accrual of architectural knowledge, and associated built projects in Australia, and Japan, a collaboration more recently extended to the United Kingdom. Atelier Bow-Wow's interest in the local timber house idiom, the "Queensland House", first encountered by Momoyo Kaijima and Yoshiharu Tsukamoto in Brisbane in 2006, precipitated these interactions. Their on-going nature, built around annual collaborative travelling studios run by Kaijima Laboratory, has established strong networks between students, recent graduates, and academics in both countries, and generated built outcomes in Japan and Australia, that exceed the expected educational benefits for the students, staff, broader architectural community, and general public.

In Japan, quasi-scientific architectural 'laboratories', adopted after the Second World War, have become the dominant pedagogical structure for architectural education.<sup>1</sup> Typically, students elect to join a particular laboratory in their third and final Bachelor degree year. Laboratories are often run by practising architects, and are usually comprised of a vertically streamed mix of Bachelor, Masters, and Doctoral students, working collectively on various tasks, often over and above the required curriculum of study. This structure allows for the investigation of research agendas collectively and over long time spans.

### The Queensland House

Atelier Bow-Wow gave their first public lecture entitled 'Void Metabolism', at the Institute of Modern Art in Brisbane, in 2008. This visit sharpened their interest in the local timber detached house idiom of Brisbane, where, like Tokyo, detached houses are prevalent. The following year, Kaijima returned with students from the teaching laboratories of both

partners, and delivered another public lecture on campus at the University of Queensland, entitled 'Commonalities and Differences'. This was scheduled at the conclusion of the 'Local Detached House and Urban Veranda Phenomena Symposium', held at the IMA, that featured presentations by local architects, academics, and students to facilitate exchange of knowledge, and inform the particular research interests identified by the two laboratories. Local architects gave presentations that framed their work in relation to the "Queensland House", supported by presentations accounting for their history, and characteristics of the type.



Figure 1. Veranda research (Andrew Wilson)

Reflecting Atelier Bow-Wow's fundamental interest in architecture's relationship with the city, the symposium was run in conjunction with 'Lively Seedings: Vibrant Laneways Small Spaces', a two-day urban workshop collaboration between staff and students from the three universities, under the auspices of the Brisbane City Council, and Museum of Brisbane. It was tasked with developing strategies for the revitalisation of city laneways, using Burnett Lane as a pilot study. Material generated by the Symposium, and Workshop informed the Third Year Bachelor of Architecture design studio run at the University of Queensland that semester, also framed by an exploration of architecture's relationship with the city, through an assessment of an inner city suburb. Publications produced by Atelier Bow-Wow, such

as *Made in Tokyo*, and *Pet Architecture Guide Book*, compilations of research undertaken by Tsukamoto and Kaijima with their students, were used as teaching aids, to illustrate relevant techniques, to set the trajectory of project work.<sup>2</sup>

The Symposium and Workshop provided a useful pool of historical material and contemporary practice exemplars for students from both countries. Japanese students were given different research outcomes and deliverables, and the collective working environment allowed students to experience first-hand techniques and strategies employed across the two architectural cultures. Students from the University of Queensland were impressed by the collective culture of the laboratories, and their ability to self-organise.

Students from Tsukamoto Laboratory methodically completed assigned research tasks, after an initial survey to identify streets where houses with verandas had survived. They developed a taxonomy of six typological variations evident from the street, in inner city residential areas, that encompassed continuous verandas, those broken in the middle usually by a point of entry, screened verandas, houses with significant stairs leading up to the verandas, but with no weather protection, partial verandas, and two-storey examples. They also undertook a survey of “urban verandas” that included historical and contemporary variations.



Figure 2. Sweat (Michael Phillips)

### Architectural Knowledge

At this time, Atelier Bow-Wow, Kaijima Laboratory, and Tsukamoto Laboratory were each invited to make contributions of their research to *Sweat*, *The Subtropical Imaginary*, an interdisciplinary research publication that brought together discourse and cultural exemplars apposite to the subtropical theme, from art, literature, architecture, and the built

environment. Atelier Bow-Wow offered two projects for inclusion. *Pony Garden*, Kanagawa (2008), a small house and yard in the country designed for a semi-retired woman and her pet pony, inspired by the first visit to Queensland by Momoyo Kaijima in 2006, and *Nora House*, Sendai (2006), that featured a veranda or engawa facing the street to encourage interactions with passers-by, in the manner of a Queensland House. For *Sweat*, Tsukamoto Laboratory presented on-going global research, their investigations of windows, and loggias, alongside the research undertaken in Brisbane into suburban and urban veranda types.

Kaijima Laboratory presented their investigations of the Queensland House, that used as a starting point *Redicut Homes*,<sup>3</sup> a catalogue of flat pack house options for the city and country, that could be transported by train, produced by timber merchants James Campbell and Sons Limited in 1928, alongside observed manifestations of relationships to typical sites in various inner-city locations, and adaptations made by owners, to suit contemporary life.<sup>4</sup>

Momoyo Kaijima developed a particular interest in the local economy of moving the “Queensland House”, cut in half and loaded onto a truck, as part of the redevelopment process, from their original inner-suburban sites to new locations, typically acreage on the outskirts of the city. This practice became the basis of thesis topics for two Masters students from her laboratory, who travelled to Brisbane for extended periods of time to undertake detailed research.

In 2010, the School of Architecture at the University of Queensland convened a public lecture series at the State Library of Queensland entitled ‘Asia Pacific’ that hoped to consolidate local understanding of Japanese architectural culture by inviting some of Atelier Bow-Wow’s contemporaries, Akihisa Hirata, Hitoshi Abe, and Klein Dytham Architecture, and the following year, Go Hasegawa and Taira Nishizawa, to present their work in a program that mixed, local and national, and international speakers.

### Tōhoku Earthquake and Tsunami

In the second half of 2011, in the wake of the Tōhoku earthquake and tsunami that devastated Japan, a postgraduate research selective that dealt with ‘Twentieth Century and Contemporary Japanese Architectural Culture’, was offered at the University of Queensland, in collaboration with Chie Konno, alumna

of Tsukamoto Laboratory, and invited Research Fellow in the School, who had visited Brisbane as lead of Tsukamoto Laboratory in 2009. This research selective provided an overview of Japanese architectural culture of the twentieth century, its reception internationally, alongside contemporary Japanese architectural exemplars, and a presentation of recent research projects undertaken by Tsukamoto Laboratory at Tokyo Institute of Technology.

After the earthquake, Momoyo Kaijima and her Laboratory were assigned the Oshika Peninsula, close to the epicentre, as the region they would offer assistance to, under the auspices of ArchiAid, an organisation established by the network of teaching laboratories in Japan, as immediate response.<sup>5</sup> Over the course of the next year, Kaijima Laboratory helped in clean-up operations, caring for communities, and with specialists from other disciplines, negotiated sites for each village on the peninsula affected by the tsunami, on higher ground, and small reconstruction projects. *A Pattern Book for Oshika Peninsula*, was developed, as a guide for reconstruction and recovery.<sup>6</sup> A village affected by a similar disaster in the distant past that was moved to higher ground was used as a precedent. Atelier Bow-Wow designed the Itakura Core House (2012) prototype for fishers in the area, using the well-known itakura construction method, typically used for warehouses, comprised of thick panels of Japanese cedar, aimed at revitalising the local timber industry.<sup>7</sup>

These events preceded the establishment of an annual collaborative travelling studio to Australia, in the School of Art and Design at the University of Tsukuba, coordinated with Momoyo Kaijima and other teaching staff. As a consequence, the studios were framed by a research agenda established to investigate innovative ways agriculture, aquaculture, and tourism, working in tandem, could productively assist the revitalisation of aging regional communities, an issue common to Australia, Japan, and also the United Kingdom. In Japan these issues were exacerbated due to the devastation caused by the earthquake. Japanese students travelled to Northern New South Wales in Australia, and worked with students from the University of Queensland, to study towns in a regional setting, investigate local food production, interact with local architects and communities in the region, and undertake initial site analysis for a project brief.

In 2013, research grants awarded by the School

of Architecture at the University of Queensland, allowed a group of ten Bachelor students to undertake a workshop and field trip to the Oshika Peninsula, with students from Kaijima Laboratory, to experience first-hand the manifest difficulties and scale of reconstruction, and visit the Itakura Core House prototype. At the end of the year, with Australian government funding, Masters students visited Sendai, and the adjacent Ogatsu Peninsula, the region assigned to Igarashi Laboratory, led by Professor Taro Igarashi at Tōhoku University.<sup>8</sup> Students were shown reconstruction projects including the Ogatsu Community Centre, and communities in this region, and participated in a workshop with Igarashi Laboratory, that used works of fiction, film and literature, in this case the film *Golden Slumber*, based on the pulp fiction novel *Remote Control* by Sendai-based writer Kōtarō Isaka, that chronicles a forty-eight hour manhunt in Sendai for the character Masaharu Aoyagi, wrongly accused of assassinating a newly elected Prime Minister, to build an understanding of Sendai as an urban setting. Students visited locations in Sendai implicated in the plot, and used these as a point of comparison between Sendai and Brisbane. Workshop outcomes were formatted for inclusion in the S-meme publication series produced by Igarashi Laboratory, dedicated to innovative graphic design outcomes, in this case *S-meme 7*, a double-sided accordion-fold print production, which featured a graphic presentation of the collaboration on one side.<sup>9</sup>

In 2014 a house project, *House in Hamilton* (2015), was initiated by Chie Konno, on behalf of Yo Shimada. It became a productive collaboration between Yo Shimada from Tato Architects in Kobe, who had independently developed an interest in the Queensland House, and Brisbane-based Phorm Architecture and Design.<sup>10</sup> Konno and Phorm had both participated in the 'Local Detached House and Urban Veranda Phenomena' Symposium held in 2009. The house, situated on a steep hillside in Brisbane's northern suburbs, maintained typological characteristics inherent to the "Queensland House", as a platform house raised on stilts, with veranda and roof elements, translated into a cruciform plan, adjusted to optimise privacy on a difficult site, and take advantage of views of the Brisbane River, while providing outdoor living under cover.

In 2015, a grant from the Australian government



allowed members of the Momonoura fishing village on the Oshika Peninsula, whose livelihoods had depended on oyster farms destroyed by the tsunami, the opportunity to travel to Tasmania in Australia with members of Kaijima Laboratory, and researchers from the University of Queensland, to investigate Tasmanian oyster farming practices, and other exemplary case studies that demonstrated ways aquaculture, agriculture and tourism could work in tandem to benefit a regional economy. Kaijima had been tasked by the Momonoura community to prompt innovative approaches to the rebuilding effort. Tasmania was considered particularly useful, given that the Australian oyster industry had been established in the 1970s, and developed new oyster farming techniques. This research field trip helped to provide background knowledge for the ongoing rebuilding effort, in particular, a case study for the establishment of a fishing school in Momonoura, as part of a broader strategy to encourage new settlers to the region.



Figure 3 House in Hamilton (Christopher Frederick Jones)

In January 2016, after taking a position with The Leeds School of Architecture, and with Momoyo Kaijima and Yoshiharu Tsukamoto appointed as Visiting Professors with the Faculty of Architecture

and Built Environment at the Technical University of Delft, for the 2015/2016 academic year, a proposal to continue our collaboration in the United Kingdom was developed. The studio they ran at TUDelft culminated in the Constructing the Commons Conference held in March. Sarah Mills leader of the Master of Architecture, and the Cinematic Commons Studio and I attended this event, to plan a collaboration between her Studio and Kaijima Laboratory, using Scarborough as the regional town setting, following the precedent of the travelling studios to Australia. Sarah already had contacts in Japan, and subsequently travelled with her students to Tokyo, in November, in collaboration with the Leeds architecture practice Group Ginger, where they undertook research premised on the 'subtraction' of the Kanda River in Tokyo, and mounted an exhibition and presentation of prior work from her Cinematic Commons Studio, at the Tokyo Design Hub.<sup>11</sup> Sarah also presented lectures at Women's University Tokyo, and to Kaijima Laboratory at the University of Tsukuba.<sup>12</sup>

### Cultural Exchange

This account of the interactions, and unexpected turns, represented by these events, travelling studios, symposia, and workshops, and projects that have occurred over a nine year period, involving architecture schools, students, researchers, practices, and community groups in three countries, demonstrates outcomes that can be achieved across all levels of architectural culture from a commitment to a long term investment in cultural exchange. This has been achieved without significant funding or continuous School support, but rather by constant negotiation, and by seeking small strategic grants relevant to the task at hand, to fund on-going activities. In this case, the collaboration has been further strengthened through internships for students from Queensland, with Atelier Bow-Wow, and a student exchange agreement between the School of Architecture at the University of Queensland, and the School of Art and Design at the University of Tsukuba.

As was the case with the World Architecture Workshop run over ten years by Architecture and Design at RMIT University in Melbourne, Australian students have engaged in a form of international intellectual exchange, the opportunity of collaborating with Japanese students, first-hand understanding



of methods and techniques employed by students in a Japanese laboratory setting, and the opening up of opportunities to gain practice experience in Japan.<sup>13</sup> Likewise for the students from Japan, particularly recent graduates who continue interactions with architectural culture in Southeast Queensland and Northern New South Wales. Concrete outcomes have resulted, in Australia and Japan, but particularly in Queensland, where the exchange has provided a fresh perspective on the local idiom, and ways it might be updated for contemporary circumstances, as well as valuable learning experiences, and accrued levels of resilience for a generation of locally trained architecture students, and recent graduates who have had the opportunity to engage with a strong architectural culture, and have also witnessed first-hand the example set by Japanese architects and students, in the wake of the Tōhoku earthquake and tsunami, in particular the impact they have had, in supporting communities affected. This exchange whilst negotiated, asymmetrical and contingent, has nevertheless opened up dialogues that continue to inform approaches taken, in the local region and Japan, to rethink what architectural practice is today.

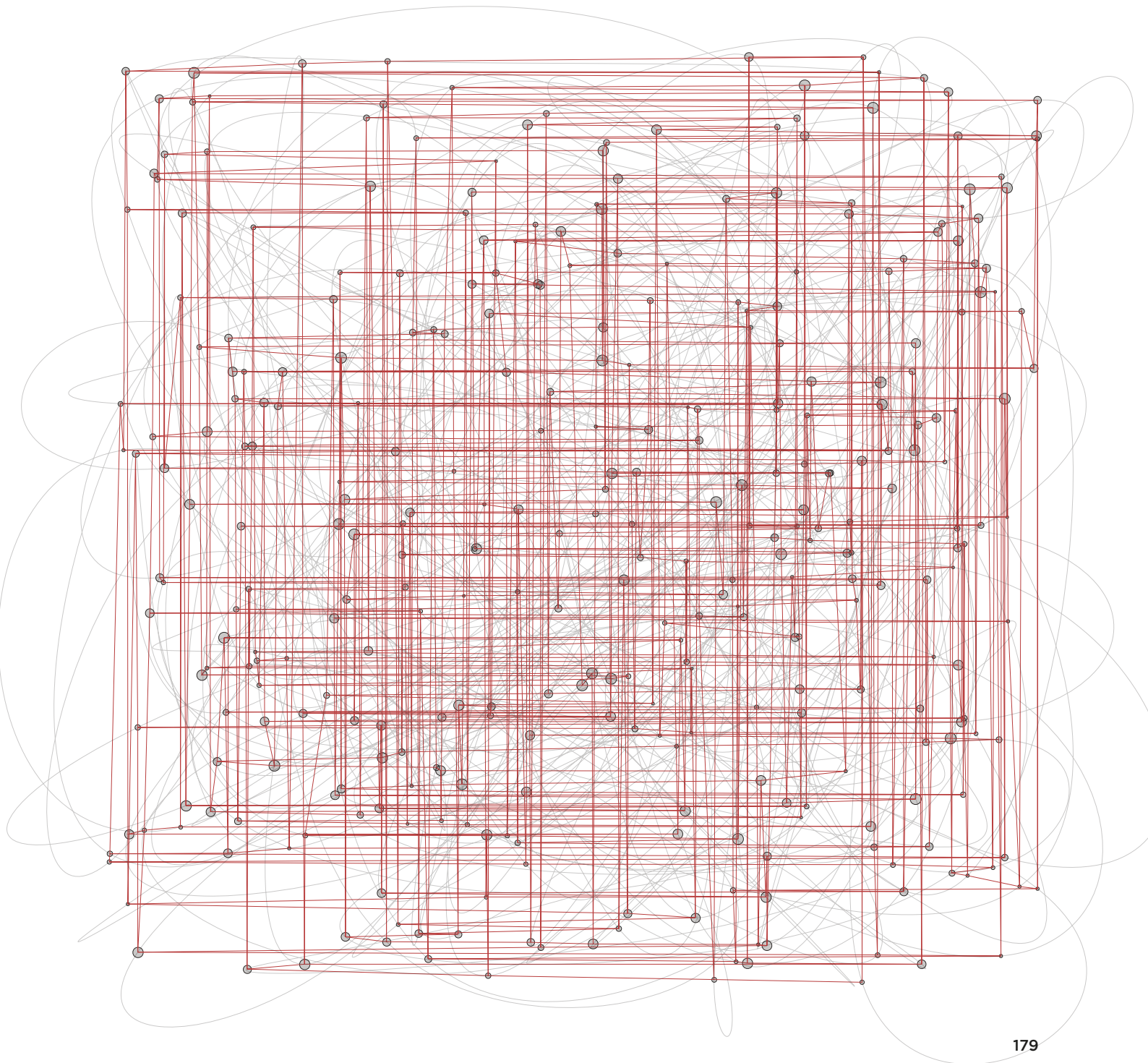
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## CHAPTER 2

# Papers: Abstract Peer Reviewed Track

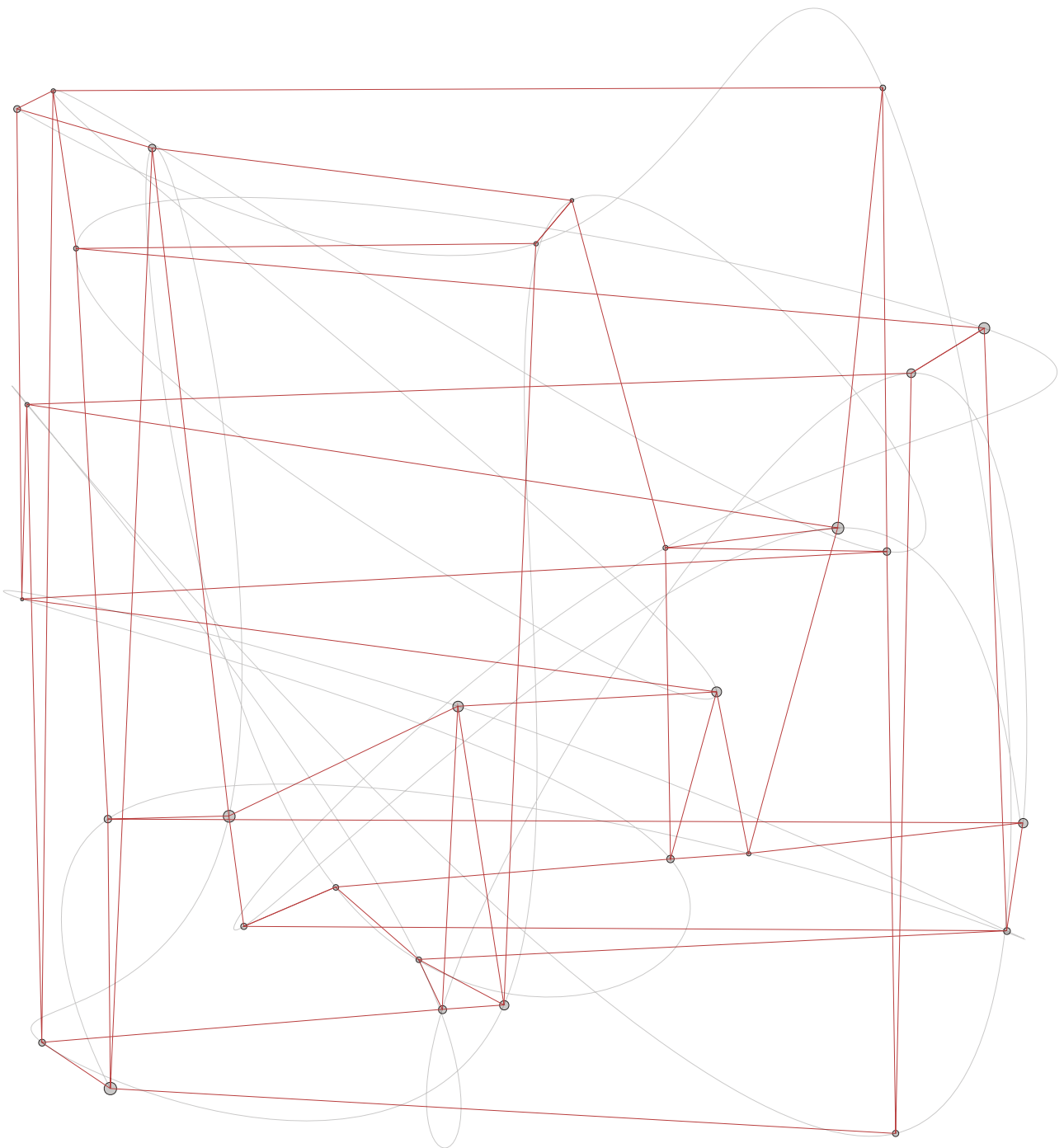








## 2.1 CO-PRODUCTION



# Building culture. Co-production, context and justice.

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## ABSTRACT

As scholars have demonstrated mainstream architectural practice is characterised by collaborative and contingent activities, rather than by the autonomous vision of independent geniuses.<sup>1</sup> Co-production also functions throughout the global south as a normative mechanism of urban development, throughout the conception, design, construction and maintenance of buildings and the urban realm, both within the formal and informal sectors.<sup>2</sup> The long history of co-production likewise demonstrates not only its normativity but also its benefits to processes of urban, economic and social development and its centrality to considerations of justice within democratic society.<sup>3</sup> As theorists demonstrate, co-production's central quality as a mechanism for empowerment derives from the collective making and curation of common goods and satisfies the often competing values of lay, institutional and professional actors. Co-productive 'making' results in both improved products but also increased capacity and empowerment and critically, reveals insights about common needs and capacities to designers within development contexts. Through citizen-led making, creative practices and building, a more sensitive description of existing and future context is revealed.

However, the reality and imperative of co-productivity is largely absent from architectural education in the UK, both in project conception and in design and realisation processes. This renders student architects not only less prepared for the reality of practice, but also with a skill-set less reliably applicable within other industries and less able to influence the urban environment towards the common good. As such, increasing co-production within academic practice is essential if architectural education is to enable graduates to operate fruitfully, collaboratively and with agility in fluctuating social and urban contexts.

Focusing on the work of two practices in India and Scotland, this paper describes co-productive architectural approaches and output and how common components of co-production between institutional, educational and community actors can be seen to not only to generate better urban space but for the designer operates to generate improved understanding of social, environmental and economic contexts and therefore better architecture. The paper then describes how such approaches can be fruitfully integrated into learning environments, both academic and 'in the field', towards architectural education more closely aligned to social context, enabling new practitioners to engage more broadly in urban culture towards socially just ends.

**KEYWORDS** co-production, India, Scotland

## Studio Blues

The traditional approach to architecture studio project work has been frequently and sharply criticised from all quarters. It doesn't bear repeating in detail. For us, whilst speculative design projects are sufficient exercises in developing conceptual thinking, the approach has specific limitations relating to the generation of competent design thinking and creative practices which engage with issues of social justice. This, we suggest, derives in part specifically from the seemingly anti-contextual approaches to the geographical, socio-cultural and environmental context of much design work which bulldozes the site of architecture flat, leaving only a sort-of data rubble which can be easily concreted over. Thus, much student design is situated on a foundation that has little reference to reality and is therefore unable to engage with issues of justice in anything other than a theoretical manner.

## Other ways of doing architecture

There are many examples of other ways of doing architecture which suggest a way out of this impasse. Indigenous approaches remain alluring and famous formal practitioners abound. Participation of the public in planning and development, institutionalised in the 1967 Skeffington Report, enhanced and established modes of practice which enabled greater control by residents of their urban realm.

However, we suggest that participation in architecture fails to live-up to its potential because, to quote Frances Cleaver, it has been "translated into a managerial exercise ... domesticated away from its radical roots" and has, as a consequence, lost much of its value as a tool for empowerment.<sup>4</sup> Rather, it is generally promoted as a means towards a better fit between product and recipient, but it is not used to challenge the central tenet of much contemporary urban renewal, which is the imposition of urbanism and home by institutional actors on the functionally disenfranchised.

Participation as a strategy is not used to address its originally stated and more valuable goal, which is the redistribution of power through the design, construction and use / maintenance of a built project but instead, usually, climbs no further up Arnstein's ladder than the third rung.<sup>5</sup> It is in this context that co-production has emerged as an alternative approach,

one which focuses on empowerment through the production of goods or services.

Co-production has been a key aspect of discussions of public service provision for a number of years; indeed, as Brandsen and Honingh suggested in a 2016 paper, 'this phenomenon has always existed, even before the term was coined.' Elinor Ostrom's definition of the concept in 1996 as 'the process through which inputs used to produce a good or service are contributed by individuals who are not "in" the same organisation'<sup>6</sup> and where 'services are not only delivered by professional and managerial staff in public agencies but also coproduced by citizens and communities'.<sup>7</sup>

This followed years of significant conceptual discussions by a broad range of scholars largely based in the fields of 'economics, political science, public administration, and voluntary/third sector research'.<sup>8</sup> The discussion of co-production around this time reflected emerging approaches in public and academic discourse on the nature of governance, broadly speaking, in turn reflecting a realisation that systems of service delivery from centralised bureaucracies had not proved practically capable of meeting governance objectives in what was becoming a more complex and contested social, economic, environmental and urban realm.

In this context public service provision through co-production was promoted as a means of improving service provision, particularly in the South, to deliver necessary social and physical infrastructure<sup>9</sup> often in places where the abilities of the state were lacking.<sup>10</sup> Co-production was increasingly used in the North also<sup>11</sup> and across the world was seen to operate to meet the needs of people who were becoming 'increasingly competent service users'<sup>12</sup> and who are thus able to participate in the processes of service provision, including both infrastructure and governance. Joshi and Moore argued for two main motivations for the use of this type of co-production: 'governance drivers which respond to declines in governance capacity' and 'logistical drivers which arise when some services cannot effectively be delivered because the environment is too complex or too variable or because the cost of interacting with large numbers of households is too great'.<sup>13</sup>

More mystical benefits to co-production have also been proposed, including a capacity to 'reinvigorate



voluntary participation and strengthen social cohesion in an increasingly fragmented and individualized society'.<sup>14</sup> Other authors, expanding the definition of public good or service, have also identified the co-production of the culture of space, from incarceration to collectives to informality.<sup>15</sup>

From this we may speculate on future scholarship which specifically considers the actors and actions which co-produce the spatial characteristics of urban life, including issues of poverty, opportunity and territorial occupation, for example. In all cases, we suggest, key characteristics for the normative production of architecture are in evidence, notably the interplay of institutional and non-institutional actors, the generation of social goods or services which satisfy all groups' objectives, and synthesis between professional and lay knowledges.

In each of these analyses co-production is defined by the instance of its application – the *production* in *co-production* is intrinsic to its identity. As such, it is argued that co-production has resisted clear delineation and the nuts and bolts of what constitutes a co-productive system, approach or process is unclear which, according to Brandsen and Honingh, makes it of little value to academic research.<sup>16</sup>

The abstraction that such use-application generates also limits the concept's 'potential for generalization'.<sup>17</sup> In practice this means that co-production is difficult to apply because it is difficult to describe. This lack of scholarly clarity, we suggest, has functioned to somewhat de-fang co-production as a process and ensured that it continues to be an innovation rather than the norm, the marginal practice of 'radicals' rather than simply a good way of going about making sure stuff is done well and in accord with the needs and will of the communities in which it is done.

In contrast, however, we suggest that the conditions Ostrom suggests as necessary if a co-productive arrangement is to emerge – complimentary technologies, law, credible commitments to inputs and incentives – can be understood as effectively 'vernacularising' intricate, often bureaucratic and technologically complex systems and process and that it is this effect which ultimately allows for a systematic approach to co-productive practices.

These four conditions are site specific, relating to the socio-spatial, cultural and material characteristics of the place and suggest a way of making co-production

applicable to and valuable within the field of architecture research and practice, even in contexts when it may seem difficult to define architecture as a 'service or good'. At the same time, such an approach helps avoid some of the wooliness, allowing projects to be assessed against criteria of what does or does not constitute co-productive practice. This has recognisable benefits for the use of co-production within education.

In addition, it is our suggestion that the effect of co-production in architecture as conceptualised by Ostrom and delivered through the four criteria is the *de facto* de-institutionalisation of the approach towards grassroots objectives and needs. As such, co-production's identity as a mechanism for institutional and grassroots cooperation is, to a lesser or greater degree, effectively disestablished by a functioning co-productive process, the end-game of which is the empowerment of communities towards self-determination, citizen control of urban processes and collaborative partnership inter- and intra-communally and with civic and corporate agencies. This objective of deinstitutionalisation has implications for educative processes, a concern we will address later in the paper.

### Case Studies

In light of this discussion, how does co-production manifest itself in architecture in practice, and how might it be seen as empowering? To answer this, this paper describes the approach and tactics of two architecture and urbanism practices. Hunnarshala operate out of Gujarat, establishing a base in Bhuj, Kutch in the wake of the earthquake there in 2001. Baxendale, a practice of which I am a director, have operated principally in Scotland since 2007.

Hunnarshalla's work has undergone systematic and extensive analysis and serves as a reasonable basis for the assessment for more speculative, less established practices.<sup>18</sup> In addition, it is instructive to view approaches to urban renewal in the north through the prism of innovative and inspirational practices currently occurring in the south because, whilst conditions of history, context and policy may differ substantially, and following the work of Max-Neef, it is our position that human needs are consistent across space and time, only that means of their satisfaction varies.<sup>19</sup>

### **Hunnarshālā**

Hunnarshala's work had two main purposes: to meet the immediate housing needs of the communities after the earthquake, but also to help slow the deterioration of indigenous culture, everywhere evident, caused in large part by migration into urban centres. To this end, I will describe the historical and social context of the communities, thereby allowing parallels to be drawn between intention and outcome in co-produced architecture.

### ***Sadar Nagar***

At Sadar Nagar, originally a relocation site for those persons whose homes had been destroyed in the earthquake or during the redevelopment of Bhuj, a process of engagement between the community and institutional actors was established by non-community agencies (including Hunnarshālā) in order to address the evident decline towards 'slum' status and entrenched informality that had taken hold. An owner-led programme of development devised by Hunnarshālā was adopted which sought to replace the emergency housing with culturally resonant and structurally sound buildings and urbanism.

Funding was provided by both state and civil society agencies and, because Hunnarshālā had devised a maximalist housing programme in line with community wishes, one which promoted an holistic interpretation of human needs over basic needs in pursuit of social emancipation for the residents (and which therefore cost more), by families through loan agencies and private savings. To off-set this, housing designs utilised low-cost and self-procured or manufactured materials and necessitated extensive self- and community-build.

At the time of fieldwork the development of Sadar Nagar had not been completed, and the heterogeneous community, curiously grouped along caste lines in the initial post-disaster resettlement plan by state authorities, had not gelled but instead had become more divided, the divisions manifest in an increasing reluctance to act collectively in pursuit of communal goals.

### ***Hodka***

At Hodka Hunnarshālā had provided the semi-nomadic community with a complete 'updated' reconstruction of their settlement through a

participatory design and construction process.

As with Sadar Nagar, the scheme was maximalist, attempting to align traditional formal and aesthetic designs characteristic common to the community and contemporary building regulations whilst, at the same time, satisfying the apparent and stated urge for modernity evident in the community. Further, traditional modes of procurement and construction as well as traditional governance structures provided a framework into which new processes could be inserted, particularly relating to both the physical re-building of the settlement but also, and most importantly, in relation to democratisation agendas central to the approach of state and institutional actors.

At the time of the fieldwork the reconstruction of the settlement was long finished and a self-sustaining business in the form of the Shaam-e-Sarhad tourist resort had also been constructed with state government and civil society assistance. The original village appeared to be flourishing and regular engagement with state agencies was frequent still; the community was also being promoted as something of an exemplar vision of community- and owner-driven construction by agencies concerned with it and some community members travelled very widely to promote it with NGO actors.

### ***Junawada***

At Junawada Hunnarshālā met community demands by making the community's self-reliance a key element of the process, endowing them with rights and contingent responsibilities, particularly in relation to the procurement of materials and services. Civil society actors began the process of reconstruction by establishing land rights which had never been formalised or documented so that legal recognition was granted. Once this had been established central post-disaster funding was allocated and services provided. Architectural and urban designs again promoted community- or owner-led construction and continuity with the past.

As at Sadar Nagar and Hodka materials, technologies, construction techniques and design processes derived from community norms, but were augmented to improve structural standards, lower costs and to ensure lower embodied energy. Building work was undertaken by the residents themselves with hired labour where necessary. At Junawada the local

government approved an entirely community-driven approach and reconstruction funds were given to the families to spend as they saw fit. Consequently, the funding provided by external agencies was sufficient for a direct reconstruction of that which had been demolished in the earthquake; indeed, Hunnarshālā's innovative material procurement process, involving price tendering by suppliers and permitting homeowners to use reclaimed materials, ensured a surplus that was used in communal building work.

### **Baxendale**

Baxendale's process involves 'prototyping space' with communities, that is, making things which are used to reveal social and physical activity and potential in a given context. This process is instructive for both architect and community members alike. Unlike traditional live-build type architectures, the process is not proposed as a means of learning how to make things but instead tests and explores the parameters of a given condition, discovering who uses a site and how they use it. In addition, building a thing in public space is an act of occupation which exposes underlying political and economic conditions.

For the architect, the act of co-producing a physical intervention in this way is seen to move spatial analysis beyond customary mapping exercises by demanding that the designer gets to know the landscape, infrastructure, services, assistance and opportunities of a site, how it is used and moved across, by whom and why. The experience of a place is modified in this way, towards a located and contextualised knowledge which corresponds to the experience of residents.

Making things which are to be left in a space also reveals anxieties and hopes within a community too that derive from the social conditions that interact with the site specifically, and the neighbourhood more broadly. The process of making in Baxendale's work is predicated on a particular form of capacity building, however. Rather than suggesting that a small co-design and live build exercise equates to meaningful participation or a sustaining learning experience, the act of making and the intervention are used as mechanisms for nurturing agency by establishing reciprocity and discourse between otherwise actively separated groups (state and community; professional and non-professional; public and commercial, intra-communally, etc.), by engendering confidence and an

engagement with place. In this context the thing made is considered secondary to the act of making, which in turn only operates as a means of gathering and coalescing community.

### *Hamiltonhill*

At Hamiltonhill, Baxendale were commissioned to undertake a short engagement exercise to investigate community attitudes and responses to proposed large-scale residential development on open public land. A historically working-class district of the city, Hamiltonhill has fallen into chronic disrepair in the post-industrial period. The building work, to be undertaken by a housing association and largely for private sale, is part of north Glasgow's renewal programme in which large areas of inner-area ex-industrial and open land is being built-up once more.

Little or no meaningful consultation beyond the customary charrette-type exercises had been undertaken with the community and they consequently viewed themselves as once again marginalised by economic development objectives. In response to a request by a faith community group and community activists, Baxendale organised the collective making of a pre-designed and cut pavilion in the street, which served as a framework to orchestrate a day-long discussion with residents, either passing-by or more fully engaged. The making activity and conversation was supplemented by third sector actors and written response documentation was undertaken. A nearby community centre organised talks to supplement and inform the conversation.

The finished intervention was then moved across the hill, to a location in the middle of what has become known as Hamiltonhill Park, and which is to be built on, and a barbeque, football and activities were organised around it. Following this, Baxendale produced a small booklet outlining the engagement, the outcomes and their analysis which was delivered to the community members as a considered documentation of what was done and said and an outline of identified needs and desires.

### *Govan-Gdansk*

The area of Govan is likewise challenged by common post-industrial problems, with issues of worklessness, poverty, disenfranchisement and depopulation, as well as having been battered by

megalomaniacal Corbusian renewal strategies. Its status today is as a down-at-heel semi-suburb of Glasgow, but one with huge potential, particularly in the remaining industrial buildings and infrastructure. Part of this includes the old graving docks which lie empty and formally closed to trespassers; it is only informally occupied.

Baxendale undertook a small installation as part of a collaborative art and urban regeneration project between groups in Gdansk and Govan, which saw activists and artists from both cities collaborating on interventions which functioned to explore and reveal the socio-spatial and cultural identity of the sites, by insinuating a 'scenario of intrigue' that effectively changed the way people behaved on the site (briefly) and in so doing, set in motion a chain of events which revealed larger narratives and necessary modes of action. The project was realised on the dock-side and involved sourcing and modelling a small shelter out of materials found on-site, in this case, shipping rope. Again, site scoping visits had allowed for a pre-designed work which could be realised in a day with limited labour. Some local youth who sometimes use the site engaged with the process after a manner during the day and burnt it to cinders after Baxendale had left.

### Test Unit

Established in 2016, Test Unit is a summer school organised in Glasgow by a collective of design, architecture and urban development agencies, including Baxendale, with financial support from institutional stakeholders, including state, third sector and higher education bodies. Operating out of recommissioned industrial buildings, Test Unit runs short programmes that uses making as a way of exploring the social, material, logistical and spatial nature of small unused or derelict sites in inner-Glasgow, and their potential as sites of / for creative practices as part of a wider discussion about the nature of urban renewal. Recognising the deficiencies of customary talking-based approaches to participation in the inner city, which have been extensive and ineffectual and resulted in resignation and deflation in participating groups, Test Unit uses a principle of the rapid prototyping of built interventions as a means of testing the physical and social boundaries of discrete sites.

Test Unit operates at a number of scales, engaging

with small sites as a means of exploring wider narratives, both of social use, identity and perception, as well as the political economies of sites. As such, it fits within Appadurai's theme of 'deep democracy', promoting a multi-agency, multi-scaled engagement with common urban issues through the making of a tangible 'thing' in pursuit of varied and often conflicting goals.<sup>20</sup>

### Analysis

In all case studies described, it is evident that Ostrom's definition and four criteria of a co-production were in active in the systems and praxis displayed, although at differing scales. However, the analysis revealed a deeper and more affective aspect to co-production which augments standard ideas as to its role in development practices, including housing. As a socially-orientated approach based around bridging epistemological divergence between lay and professional actors, co-production's identity as a socially constructed phenomenon is established. It follows therefore that co-production *means something* to the actors engaged in it, and that the artefacts produced are therefore subject to interpretation.

In each of the cases described, the process and the artefact satisfied numerous, often competing needs. For Hunnarshālā and Baxendale the ends of development intervention run along the spectrum of better housing and urban space that promote and maintain the benefits of customary ways of dwelling. For the community they are practical but also immaterial, pertaining to the psycho-social state of the community as both a single entity and as individuals and families. The community also receive basic amenities and a consolidation of ownership and the promise of active citizenship, either through legal tenure or, in the case of Baxendale's work, through the development of community assets, including social networks, knowledge and activity and the legitimisation of ordinary ways of being. For the State the benefits were likewise mixed – undocumented poor people properly housed; low-cost urban development with self-sustaining services and the re-allocation of basic service provision to the third sector. In this way, singular visions are resisted – coproduced architectures are inherently pluralistic.



## Education

In both cases, the model of practice lends itself directly to pedagogic approaches in the design studio. Seven initial suggestions are made below:

First, the method of site engagement is predicated on an assumption that any given context has a cultural life already, at varying scales, from the specific to the universal. The architect observes, engages with and learns this.

Second, the method of designing for the site is responsive to the existing modes of occupation on the site. Design follows use.

Third, making is an act of occupation which goes beyond trite declarations of 'ownership'. It is a declaration of existence, identity and contingent rights.

Fourth, making and the made intervention transform behaviour on a given site, within the boundaries of normative behaviours. The limitations and borders are thus revealed.

Fifth, collaborative making and design is an opportunity for ethnographic research practices more than it is a robust process for skills acquisition.

Sixth, to intervene in any context in a way that is appropriate to the site and appropriable by residents requires a located construction approach based on resource availability.

Seventh, co-productive practices necessarily include a broad spectrum of actors

Eighth, the life over time of an intervention on a site continues the story.

## Co-production, context and justice

Each theme above has direct application in the design studio and none are entirely absent from the studio as it stands. Site analysis occurs, live projects exist and research methodologies are sometimes applied. What the approaches described in the case studies point to, however, is the deconstruction of epistemological boundaries.

Viewed in light of a substantive realignment of the role of the architect, away from the bespectacled, black-clad genius of yore towards a co-participant in the fruitful life of the city, a fellow traveller so to speak. The act of making as described above in both Hunnarshala and Baxendale's practice is a conscious and conscientious attempt to deinstitutionalise both the production of architecture and the production of architects.

Rather than consolidating the great divide between professional and local knowledge, between institutional and grassroots actors, between corporate and state agencies and between individuals and groups, the approach adopted seeks ways of informing and revealing the dimensions of a given site at numerous scales. In so doing, it enables designers to formulate approaches based on sensitive, clear knowledge, which is both responsive and complex, reflecting the nuanced, hybrid reality of sites as socially constructed. In this way, architecture is transformed from an industry orientated towards the production of things applied to discrete landscapes, to a mode of analysis that diffuses the borders of sites towards complexity, collaboration and civility..

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# Digital Vogue, Organic Design and Synthetic Processes.

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## ABSTRACT

Recent Innovations in 3D printing materials, such as laser sintering and stereolithography technology, have revolutionised the cross-disciplinary design work of architects. Novel collaborations and co-productions within the fashion industry are disrupting traditional craftsmanship and empowering innovation by utilising emergent technologies, such as additive manufacturing. Examples are the collaborations between architect Julia Koerner and fashion designer Iris Van Herpen.

**KEYWORDS** Co-production, Multi-Disciplinary Expertise, Creativity, Technology, Innovation

Advancements in additive manufacturing technology, such as printing with flexible material or metal, are enabling designers to progressively realise complex digitally generated organic forms on multiple scales, from jewellery to building components. The synergy between organic design methodologies and synthetic digital fabrication processes is described.

Biomimicry is explored in 3D-printed fashion garments through the interest in nature and architecture. Materiality and structure is often a single system in biology, for example in the 'venus flower basket' sea sponge. One digital fabrication process which reveals this synergy at most, is 3D printing. The design can be made tangible with one single material where the structure is controlled by material shore level and geometric design.

The architect designs the geometry in the computer, the fashion designer gives aesthetic feedback, the engineer prepares the files for printing and the machine produces the product. Several 3D printed collections, which are described in this paper, feature

fashion pieces that are the first of their kind as ready-to-wear and haute couture 3D-printed garments. The interdisciplinary work process, the co-production and collaboration between these professions is novel as it fuses different creative fields together.

The collections explore new possibilities in flexible material 3D-printing. The synthetic processes utilised to manufacture these garments, stand in a stark contrast to the biological inspired organic aesthetic. The computational design methodologies are building the synergy between the two subjects of analysis. A series of digitally grafted and 3D printed garments are showcased to further elaborate on the topic of organic design and synthetic processes.

Specific stages in the life cycle of a plant, the structural make up of deep sea sponges, the undulating gills within the hymenium of mushrooms and the interlacing of naturally grown kelp systems are by all means inspiration for the biomimicry and organic design aesthetic. Inspired by the structure and performance of these topologies. Complex and intricate

layering system, the three-dimensional structures are enhancing the performance and flexibility of the 3D-prints in relation to their organic aesthetic. The lace-like patterns appear as they are naturally grown on the human body. Digital Modelling and visual programming techniques are deployed to realise the visualisation of such growth processes found in nature. The generative design methodology simulates the organic while relying on mathematical logics of form found in biological systems.

This methodology of designing and making is progressively disrupting the traditional making of garments. Innovation lies within a novel understanding of pattern making, layering, draping and digitally crafting 'digital vogue'.

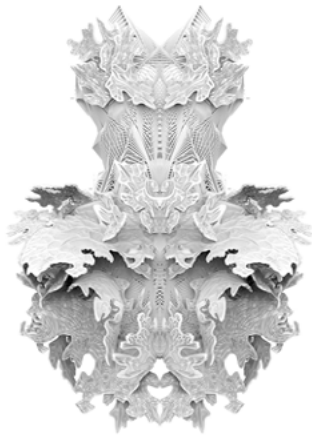


Figure 1. 3D printed Hybrid Holism Dress, 2012, Julia Koerner in collaboration with Iris Van Herpen (Digital Rendering Julia Koerner, 2017)

### Cross Disciplinary Design Process

Within the architectural design process 3D printing is being used for prototyping and representational scale model making. The fabrication method enables architects to rapidly visualise three dimensional ideas, designed on the computer, in physical space. The 3D printing process is rarely taken into consideration for large scale building components, mostly for cost and material reasons. Although the technology exists since more than thirty years the advancements are related to novelty in material as well as type of technology. Besides FDM (fused deposition modelling) there are other techniques such as stereolithography and laser sintering. While these technologies are different in the way the material is additively deposited or fused, either

in liquid or powder form, the size limitation is similar. Most machines print with build volumes between half and one cubic meter. Dimensions vary based on technology as well as geometry limitations.<sup>1</sup>

The plastic based materials used for FDM technology are rather inexpensive, so are the machines. The desktop printers are available commercially to the public at low costs comparable to an advanced paper printer. The geometries and types of objects possible to print with FDM technique are constrained by size and resolution. The stereolithography machines utilise liquid resin while the laser sintering machine is filled with powder, in both technologies a laser fuses the material layer by layer. This technique involves also size limitations. Though research has been conducted about 3D printing on a larger scale and companies are suggesting to 3D print entire houses, the technology is only at the beginning of entering the architectural building construction on a large scale. The research of Michael Hansmeyer, for example, explores computational design on a human scale in the project Grotto Digital Grotesque II (2017). Highly differentiated geometries forge a rich and stimulating spatial experience. A hitherto not seen richness of detail evokes curiosity and bewilderment.<sup>2</sup>

On an even larger scale the San Francisco based 3D printing startup Apis Cor, and Russian real estate developer PIK, suggest to 3D print a complete single family house out of concrete in one single day, by utilising a technique known as contour grafting, as revealed earlier this year in Archdaily.<sup>3</sup>

In comparison to architecture, the product design and fashion industry allows for the 1:1 scale translation of digitally designed products and garments incorporating 3D printing technology. Therefore, the use of additive manufacturing processes is rather advanced considering the technological process. The technology has been moving from prototyping to manufacturing in the past years. This is because the 3D printing companies have advanced their production processes and gained more experience in mass production of additively manufactured objects. The design process for digitally crafted geometries for 3D printed garments is almost identical to the design process of a three dimensional architectural design concept. The main difference is the scale, the functionality and the material. In architecture one would find an alternative material and construction



method to realise the design concept into a built project. This is due to the reason that building components have to support different structural and functional performances. The design is separated into massing, structure and envelope and different parts are built with different materials. The architectural design is split into cladding, tectonics and surface finishes. Techniques of layering and connection details enable the architect to differentiate materiality.

In 3D printed fashion design the computationally generated patterns can be translated directly into the product by the additive fabrication method in one single material. Therefore, the design freedom is indefinitely, as long as the garment performs well structurally and functions as a wearable piece. The garment needs to perform with the moving body aesthetically and the structure of a building has to accomplish strength against movement. However the viewer who is moving through the building experiences the static design in motion. Designing for movement relates the two professional design processes. Trained as an architect, the fashion designer Pierre Balmain has expressed 'dressmaking is the architecture of movement, nothing is more important in a dress than its construction.'<sup>4</sup>

Generative design processes enable architects to work cross disciplinarily and experiment with their techniques on a smaller scale potentially imagining realising these systems one day on a larger building scale. The strategies in design are very similar. Apertures and lace like patterns are equally relevant in garments as well as in facade design strategies. Pleats and folds and connections of surfaces and materials are of similar importance in both scales. Finally structural performance and material properties are inherent in the design processes of garments and architecture; so are spatial qualities and aesthetic appearance. Coco Chanel once said, 'Fashion is architecture: it is a matter of proportions.'<sup>5</sup>

### **Architects collaborate with Fashion Designers**

Fashion designers are generally not experienced in 3D digital design processes, 3D computational modelling and scripting techniques. These techniques and tools are not yet part of the educational curriculum of fashion schools. Therefore, Fashion Designers and Haute Couture houses approach architects for their expertise with three dimensional design methodologies. Unlike a service provider the design

service of generating a 3D object involves not only the skill set and know-how of a specific technique or tool, beyond that it involves a design sensibility, a three dimensional spatial understanding and an essential expertise with materials and technology. Architects are specifically trained within this skill set and therefore fill the gap between the Fashion Designers' expertise and the integration of emergent technologies.

Media is often misleading and under representing the importance of the role of the computational designer in the production of 3D printed clothing. Often media is generalising the process as if a machine is producing code and then one simply presses a button to print the garment. Surely in less complex and detailed garments this can be a valid statement; however in the designs described in this research document this is not correct. The processes which architects utilise to design the complex geometries and systematic patterns are developed by visual programming techniques or digital modelling techniques over a long period of time. The novelty lies in developing new scripts and codes and formal languages inspired by natural organic morphologies in order to produce an unprecedented design. Further beyond the biornametic, the idea that a pattern is developed based on certain technological constraints and material property is fusing the organic design with the technological aspects into a symbiosis. Biornametics is the strategic approach of biomimetics projected onto a new understanding of the ornament.<sup>6</sup>

For Architects it is of interest to work within the fashion industry as it allows them to experiment with computational code towards biornametics. It enables architects to creatively research computational design methodologies. The functional requirements are narrow and linear in comparison to the architectural ones. Most of the designs can be developed symmetrical in the computer while building designs seldom require symmetry in the layout and spatial organisation. Time is an important factor, garments can be realised in a faster pace and aesthetic results are faster translated into tangible physical objects. Material behaviour and structural performance are analysed quicker. While the architects of the modernist time, such as Marcel Breuer and Le Corbusier, designed Chairs as case studies for their buildings, young architects today like to experiment with product design as the output of research. With new technology outputs can be realised in a smaller scale with faster results.



Figure 2. 3D Printed Kelp Jacket, 2015, Julia Koerner  
(Photography Sophie Kirchner, 2017)

### Collaboration and Co- production

Designing a three dimensional garment requires the collaboration of many creative minds. Important is that the involved designers exchange ideas and the production managers at the 3D print facilities are weighting in their technical engineering expertise. More often interdisciplinary collaborations are enabling us to advance design processes and research. Architects also collaborate with scientists and biologists to integrate biomimetic structures into their design ideas. Nature inspired design is enabling architects to not only mimic organic design but also growth processes and environmental adaptations found in biological systems. Often structural patterns, material behaviours as well as aesthetics found in nature are the basis of systems designed for architectural design projects. Integrating production methods from other disciplines is the key to advance architectural building and construction methods, because it nurtures a resourceful building strategy as energy recourses can be used intelligently. Beyond

that the amount of material or the kind of material can have an influence on how economic a building structure is designed. For example looking at the Venus Flower Basket deep sea sponge and its structural make up, the fibrous material is not only performing structurally it is defining its porosity, apertures and aesthetics at the same time. The structure grows based on the environmental influences, towards light and in a pattern reflecting strength against strong water currents.

### Nature and Design

In biology there is no distinction between materiality and structure. 3D printing resembles how structures grow in nature.<sup>7</sup>

The process relies on the bonding of material between different layers. Hierarchies in geometry allow for a structural behaviour reminiscent of natural systems. Nature provides us with intelligent, dynamic and optimised evolutionary forms. These forms are also beautiful. Designing an object in motion seeks an elegance and aesthetic found in the DNA of organic and natural forms. The synthesis of nature and technology often involves digital analysis and research into the mathematical logic and properties of artefacts found in the biodiversity of nature. Two-dimensional surface relief and crusts of organic mass in combination with the three-dimensional complexity of cellular systems can serve as guiding principles for structural performance and intricate geometry. The architectural micro scale of deep-sea sponges, kelp, hymenium, spores and corals are a design resource for the morphology of garments. 3D Scanning, computed tomography (CT) and macro imagery are used to capture and analyse natural structures. An intriguing aspect of this form of research is the embodiment of a beautiful organic aesthetic. The combination of mathematics, engineering and computational design with an aesthetic design sensibility result in a re-creation of this beautiful organic quality, in a highly discretised process.

### The role of Biology in Architectural Design

Julia Koerner is integrating the above described tools and methods deployed in the design process of digitally designed garments into the education of architecture students at UCLA. Specific focus lies within the study of natural artefacts. The anatomy,

structural make up, growth processes and material logics and performance of materials are being studied to scientifically understand how such processes can be translated into a building system. The technology seminars focus on a material system. The design is derived from the constraints and possibilities arising from the specific material properties. The strategy is that the design process follows the material selection. Form, material and performance need to align in a way that is similar to the way that they do in nature. 3D printing technique aligns most with the biological growth process of natural systems and structures. Single materials take on different forms and shapes to perform inherently with each other. Since the 3D printing process is one most closely related to how nature builds systems out of a single material, it is obvious that the aesthetic can be very organic and nature-like. Although the production process is rather synthetic in the 3D printing industry, mostly chemical plastic based materials are utilised for printing, the stark contrast of the organic design language and the artificial production generate an enigmatic effect in materiality. The research results gained from the small scale 3D printing design is directly feeding into the architectural education of the students at UCLA within courses taught by Koerner. As an example the graduate students are researching 3D scanning techniques of artefacts to develop three dimensional systems for urban networks for futuristic artificial island designs in Asia (Summer Suprastudio 2016 lead by Julia Koerner). Emergent technologies such as laser cutting, CNC machine and digital mould making techniques are integrated into the computational design curriculum of technology seminars. Finally, robotic fabrication and movement studies are integrated into design strategies for moving spaces and dynamic systems. (Suprastudio Greg Lynn and Julia Koerner 2012-16).

The relationship between biology and building is now in need of clarification due to real and practical exigencies. The problem of environment has never before been such a threat to existence. In effect it is a biological problem ... not only has biology become indispensable for building but building for Biology.<sup>8</sup>

It has often been stated that biology was the leading scientific discipline of the twentieth century, and is set to continue at the centre of scientific discourse in the twenty-first century. All disciplines are in the process of a major revision, within which concepts that

originated in biological studies gain new impetus and offer insights and new paradigms for all of the creative practices across many fields of creative endeavour.<sup>9</sup>



Figure 3. 3D Printed Venus Dress, 2016, Julia Koerner (Photography Sophie Kirchner, 2017)

### Organic Design and Synthetic processes

The bio-inspired design language requires complex modelling techniques. Computational design processes enable designers to develop patterns parametrically around the body which change towards certain inputs. These inputs can be curvature in the body anatomy, areas of body movement, areas of protection, areas of heat exposure and many more. These inputs relate to garment design in a novel approach.

Traditionally seams are determined by 2D cutting patterns and position of cutlines. When designing garments in 3D the seams are not determined by cutlines but rather by the dimensions of the machine built platform. The design of the parts is maximised to fill one print box. An aesthetic ambition is to hide these seams to make the part to whole relationship more organic and seamless appearing. Similarly to animal skins and human skins, seams are hidden and even non existing. The collections explore new possibilities in flexible material 3D-printing. Laser Sintering technology is a powder based technique and the material can be flexible and stretchable if printed in thin glasslike patterns. The stiffness can be controlled

with the geometry. If a pattern is dense and opaque the material is less flexible. In areas where the pattern is translucent and thin the material is stretchable and conforms to body movement. With the computer you can design such gradient transitions seamlessly. If this design strategy is coupled with a change in shore level of the material then this organic aesthetic can be combined with the synthetic performance of material behaviour.

The synthetic processes utilised to manufacture these garments, stand in a stark contrast to the biological inspired organic aesthetic. The 3D printed garments are inspired by natural systems and therefore often reminiscent to systems grown in nature. The perfection in detail and symmetry however achieved with computational design and machine making are non-organic and natural. In recent years the term “3D printed” has been misused by people not knowledgeable and unfamiliar with these highly technological processes. Fashion designers publish and hype falsely their designs under the description of being 3D printed. The term is misused and even dresses which have never been close to a machine have been wrongly described as computationally generated. Unique to the design of a 3D printed garment is the highly complex geometry, the unique detail level of non-repeated structures and the synthetic materiality.

Although some materials, such as PLA, are biodegradable, most materials in 3D printing are highly synthetically generated. Architects working with 3D printing processes are seeking to integrate sustainable ways of recycling the material and finding means and methods to reuse the designs. The combination of highly digitalised design processes with traditional craftsmanship is the future of 3D printed digital vogue.

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# Mind the Gap. Live pedagogy in an era of austerity.

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**KEYWORDS** co-production, live pedagogy, localism, impact, evaluation

We are living, learning and teaching in a world where the established patterns of urban production are shifting dramatically around us, at both global and local levels. The UN-Habitat World Cities Report 2016<sup>1</sup> calls for a 'rights-based approach' to urban innovation, achieved through the democratic participation of citizens in the production of their city. In the UK the Localism Act states a similar ambition<sup>2</sup> and attempts to encourage a far greater involvement of community groups in the planning, design and management of the built environment. Of course, this 'localism' is pursued within a national context of austerity that has resulted in deep and sustained cuts to public sector budgets leaving local authorities struggling to even fulfil core service provision. The result is a policy shift towards local autonomy and community ownership coupled with a lack of effective institutional capacity to support community groups in this process.

This rapidly changing context of urban production has placed a new imperative upon our institution's mission as a 'Live School'<sup>3</sup> and a 'Civic University'<sup>4</sup>. This was brought sharply into focus recently during a student debate at the end of our annual Live Projects. Students recognised the growing number of projects that were in collaboration with community groups, often made of volunteers, that had recently gained ownership of their library, community hall, leisure centre or sports facility, often in order to save it

from closure or from being sold off. Our students had worked with the client groups, key stakeholders and the wider communities to develop integrated spatial, environmental, social strategies for future sustainability.

Recognising that these projects arise from the gap between the high expectations of 'localism' and the low levels of support and funding available, the students discussed the ethical, professional, political, academic and pedagogical challenges that this raises. They asked if it was their role to plug the gap and, more generally, the role of Universities to support local communities in the vacuum left as governmental institutions withdraw.

It is our belief that now, more than ever, in this heightened context of civic scarcity and need, the role, value and impact of live pedagogy must be understood and questioned. This presentation is an account of how we embarked upon a process of evaluation of SSoA's Live Projects where groups of Masters in Architecture students work with community clients on real design projects. We have been running the programme for 19 years, with 190 projects completed, 1700 students engaged, across 15 countries. We have built up a wealth of experience and tacit knowledge in the process but it is only recently we have had the capacity to formalise the evaluation of these projects.

This is an ongoing process focussing on four places (ranging from semi-rural areas to urban centres) where



we have developed long-term relationships through a series of 'live' teaching projects: Castlegate in Sheffield, Blackburn, Doncaster and Barnsley/Dearne Valley. We present these projects and explain how we are developing an evaluation framework to understand the impact the projects have had on the organisations, communities and places we have worked with.

Through this process of evaluation we have become acutely aware of our institution's potential role in the testing out and facilitating of new practices of urban co-production through our live pedagogy.

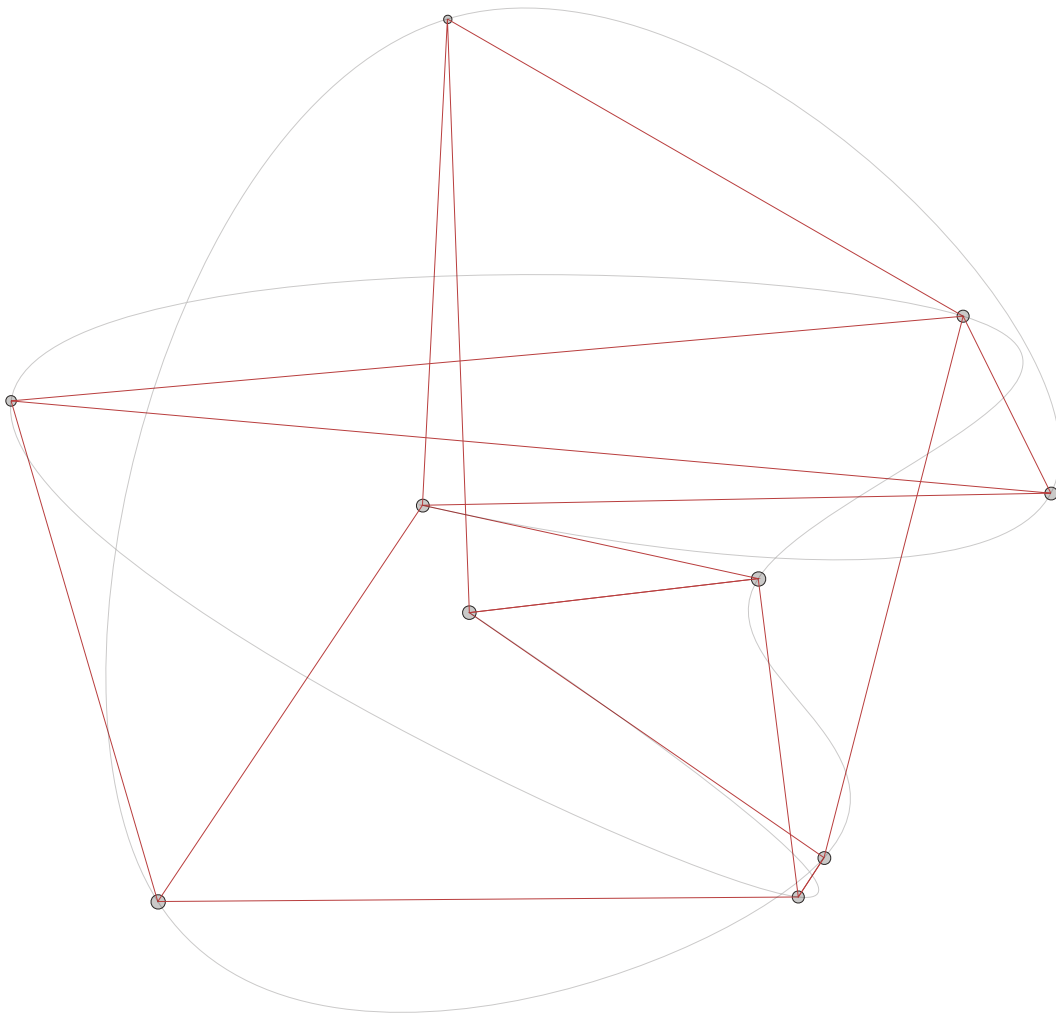
We present this work as a reflection upon the evolving role of 'live pedagogy' as a critical and transformative practice that operates simultaneously in academia and in real urban contexts. The capacity of live pedagogy to empower citizens and build local resilience is apparent now more than ever as the socio-political context shifts towards co-production. This paper will explore the opportunities that our staff and students have 'to make a difference' through our engaged teaching and research – to build capacity within local communities, to develop effective design solutions, to open up support networks and access to funding and ultimately to facilitate the production of better quality environments.

We celebrate these opportunities while exploring the ethical and pedagogical challenges that arise from them. The ambition of co-production is to close the gap between local citizens and the structures that produce our built environment. We believe our challenge is not to merely bridge that gap but to transform the nature of service provision in the process.<sup>5</sup> Universities and, in particular, schools of architecture are well-placed to become 'agents for change',<sup>6</sup> reconfiguring the gap between communities and traditional structures as a place for innovation and transformation, a place to take care, nurture and be 'mindful' of possible local futures.

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## 2.2 RESILIENCE



# Conflicts of Value in Architectural Practice and the Implications for Architectural Education.

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## ABSTRACT

Within the architecture profession, issues of pay inequality, lack of diversity, the rising cost of architecture education, and the stagnation of wages has led to research and advocacy from the perspective of work and value. This paper explores the complexities of three different types of value systems applied to architecture work – economic value, professional value and personal value - to suggest practical ways that the architecture design studio teaching can be augmented to better provide students with skills in the learning environment that will help them thrive in the labour environment.

**KEYWORDS** work, value, design studio, practice, agency

The phenomenon of architecture as a ‘profession in crisis’ is well documented and supported by years of evidence and research. The lack of diversity, high drop out rate of women, low-pay, long hours, rising costs of education, massive student debt, and the alarming prevalence of mental health issues in schools and in the profession at large is just some of the bad news for the future of a profession that is also facing the global challenges arising from automation, climate change and soaring rates of social inequality.

These problems are collectively shared, and do not only affect the profession, as they directly impact the world that is created through architecture’s work and the quality of our shared built environment. The lack of diversity in the profession renders our collective urban environment as a product creation of a mostly white, upper middle class male experience. The lack of control over investment capital and financial independence for architects makes them less able to take risks and innovate. The high cost of education and low cost

of incoming architect’s salaries reduces a young architect’s ability to explore new and different modes of practice, and encourages an exodus of the best and brightest to more lucrative fields such as UX design instead of expending energy to change architecture for the better. The rampant prevalence of overtime without commensurate pay means that architects do not have the time to engage with the very world in which we work, dedicating less time to volunteering or social and political engagement around issues that affect our work. Combined, it results in a profession that is slow or unable to innovate and adapt to change, destined to be a subject to external forces rather than a leader.

If this is the labour environment that architecture students are entering, how do educators better prepare them in the learning environment and give them the tools to not only thrive, but to bring about the much needed change in the profession?

This paper proposes that one of the ways that students can be better prepared is by being taught

in school about the value systems placed upon architecture work, externally and internally. One of the sources of the current problems in the architecture profession is a result of the conflict between work (or labour)<sup>1,2</sup> and value within the profession. By examining the complexities of the different types of value applied to architecture work – economic value, professional value and personal value – this paper suggests practical ways that the architecture design studio teaching can be augmented to provide students with the skills to negotiate between the ‘personal and architectural value systems’ taught in schools and the ‘economic value system’ used by clients in the profession.

### Architect's Work

*“The profession and practice are different but often treated as if they are the same. The profession of architecture is a social construct, largely self-defined and self-perpetuating, which is required in order to give architects status and the concomitant power. The practice of architecture is a more nebulous affair.”*<sup>3</sup>

In the *Ten Books of Architecture*, Vitruvius declared that the work of an architect was to create a structure that exhibited the qualities of *firmitas, utilitas, venustas* or ‘firmness, commodity and delight’. Thirteen centuries later, Leon Battista Alberti, is credited for separating thinking from making in architecture practice, thus refashioning the architect as a designer who does mental work, and distinctly separate from the engineer and builder who do manual work. Both Vitruvius and Alberti’s images of the architect continue to define contemporary architecture practice, though the clear distinction between manual and mental work has lost its relevance as, similar to other professions, they both have expanded to encompass aspects of each other in everyday work. To embrace the wider breadth and depth of contemporary architecture work, Maurizio Lazzarato’s definition of ‘Immaterial Labor’ has been used as the starting point of recent ‘Architect as Worker’ scholarship from Peggy Deamer and The Architecture Lobby, who have sought to reframe the sociological analysis of the architect away from Bourdieu’s ‘Architect as Cultural Tastemaker’ to ‘Architect as Worker’ in order to take on the issue of professional marginality and subjectivity as a problem of work.

Lazzarato defines immaterial labour as “the labour

that produces the informational and cultural content of the commodity”<sup>4</sup>. Immaterial labour encompasses different activities that are not traditionally considered work – such as “defining and fixing cultural and artistic standards, fashions, tastes, consumer norms, and, more strategically, public opinion”<sup>5</sup> – and blurs the distinction between manual and mental/intellectual labour, incorporating other skills such as intellectual, manual and entrepreneurial skills into the definition of work. Immaterial labour is important to understanding architectural work because, as Reyner Banham remarked, “...what distinguishes architecture is not *what* is done – since, on their good days, all the world and his wife can apparently do it better – but *how* it is done”<sup>6</sup>. Immaterial labourers are expected to use management, creativity and communication skills to regulate their own work and as such their “personality and subjectivity [is involved] within the production of value”<sup>7</sup>.

Immaterial labour blurs the division and contents of labour by incorporating the client/consumer into the production and creative process, which becomes about social relationships and communications rather than pure commodity production. As a contingent practice, architecture work is done and redone in a dynamic manner over the course of the project in collaboration with a rotating series of consultants, sub-consultants and public entities. As the building industry has grown, the shifting of other professions have significantly impacted what architects have jurisdiction over today such that “... in fact the architect often becomes a broker negotiating a general design through a maze dictated by others”.<sup>8</sup> With increased complexity of building systems and development methods, inter-professional competition between building professionals has taken its toll on the architect’s duties as architects continue to try to negotiate their eroding role in the space between the technical and poetic, subjective and objective knowledge. This inter-professional competition from new professions emerging around architecture, “have reduced the profession’s connection with building even further, as Robert Gutman warns (“Taking Care of Architecture”), turning the architect into a design subcontractor, whose decision are limited to aesthetic arbitration”<sup>9</sup>. In losing influence over building, engineering, and planning to other professions, the role of the architect has been tailored so that now it is only responsible for

*venustas* (“delight”), the only quality that has not been claimed by other building professions.<sup>10</sup>

This is complicated and supported by the myth of the Architect/Artist as lone creative genius, popularised by Giorgio Vasari in *Lives of the Most Excellent Painters, Sculptors, and Architects*, and to this day there is a general feeling among architects that they are, according to Tom Spector, either ‘famous or pre-famous’. “In both cases”, Spector writes, “[architects] are encouraged to self-identify with the elites, regardless of whether any realistic possibility of achieving that exalted status exists or not”.<sup>11</sup> This has resulted in a profession that Peggy Deamer has remarked, “[doesn’t] believe that we do work. We go to the office, we get a paycheck, but as a profession architecture produces designs, neither mere products nor services”.<sup>12</sup> Despite this popular narrative, the day-to-day reality of architecture practice is quite different. When asked about their highest priorities for their practice, only the architecture practices with the highest fees listed ‘creativity’ as most important, the others ranking ‘client satisfaction and repeat business’ higher.<sup>13</sup>

Dynamic changes in building technology and global capital in the last forty years have led to the further marginalisation of the architecture profession as the profession has failed to adapt with the new economic, social and political context in which it works.<sup>14</sup> Of the many changes, a few – the rise of speculative development and design build contracts, the abolishment of fee scales, rise of digital technologies – have had massive impacts on the nature of architecture work, altering the type of clients, fees, contracts, liabilities, work flow and hierarchies in offices. This will continue to speed up as BIM becomes the norm for project delivery for all private and public clients and automation continues to decouple value from work across all fields. Despite these massive changes in the nature of architecture practice and work, architecture education has not changed at the same rate, leaving students wholly unprepared for the labour environment that they enter upon graduation.

### Value & Education

Given the complexities of types of work and the inability to easily separate them from each other, defining the value prescribed to an architect’s work can be difficult as it changes throughout a project.

Architecture is both a process and a product, and the word “architecture” is used to mean both of these things. While the economic valorisation of architecture by architect and client tends to focus on the built product and is clearly identified in a contract, the personal, social and ethical values that the architect places on her work covers both architecture as a product and as a process. As such, in architecture work the use value and exchange value distinction set by Marx is not particularly helpful since the building that is created by architecture labour is both used and exchanged for capital.

The value systems and suggestions presented below are framed in the context of teaching in the architecture design studio, the cornerstone of architecture school education and the context in which students learn how to work and ‘practice’ architecture. It is in the design studio that students learn to develop and explore design ideas, time management, how they best work, how to present their ideas, how to interact with colleagues and tutors, and verbal and visual communication skills. It is where they learn the value of their work - for themselves, for their tutors and for the RIBA validation board - the ethics of architecture practice, agency, and power structures through their own work. It is in this learning environment that they learn how to operate in the labour environment.

The basis for understanding design studio education is my own educational experiences of varying lengths at Columbia University, Syracuse University in Florence, University of Washington, Aalto University, and the London School of Economics, and teaching in the undergraduate Year 2 & 3 design studio at Oxford Brookes University. Our studio at Oxford Brookes focuses on process and experimentation and aims to give students the tools and support to explore multiple ways of working across scales and materials. It is in this spirit of the teaching ‘process’ and not an examination of the final product that this paper belongs.

Ultimately, these suggestions are grounded in the argument that in order for architects to thrive in a post-human world of automated work, the profession needs to embrace a practice embedded in humanist values. In order for the profession to thrive, its value cannot strictly be applied to work through a purely capitalist system. The ideas presented are intended to be practical enough to be applicable today because



while an educational and professional revolution may be required, action must be taken today to turn the tide.

### **Economic Value System: Value of Time**

*“The value of the product is not what it costs to provide or produce, it is the value the customer puts on it.”* –RIBA ‘Fee Calculation, Management and Negotiation for Architects’<sup>15</sup>

The direct indication of how the architectural product is valued by the clients is the fee billed to the client, which is most commonly calculated as a percentage of the total building cost. This was established as standard business practice to set the architect apart as an ‘elite creative’ professional, separate from members of the building trades and to establish the unique services that the architect would provide for their client.<sup>16</sup> Consistent across all sectors and contract types, as the cost of construction increases, the percent fee charged decreases.<sup>17</sup> While this is an easy way for the client and the architect to assign a fee to a project, this payment structure does not take in to consideration the amount of variation in work required for a project type.<sup>18,19</sup> It also links architecture work directly to the building material costs and short term market forces out of the control of the architect, and creates a conflict of interest between the architect as the owner’s agent who works (sometimes more hours) to keep the building cost low for the owner and the architect who would like to be well compensated for his work. Compensating work based on the material value of a finished product also does not take in to consideration quality or expertise of work done by one architect over another<sup>20</sup> and expects the architect to take on more risk. In order to ask for an accurate fee, the architect is required to have a good idea of the complexity of the project and its context as well as market trends. By tying the economic value of the architect’s work to the finished built product, it also ties the value of his work to the short-term economic goals of the client – the leasing or selling of the building after completion - without considering the long-term economic or social value of the building.

The reality of this economic value system is not good for architects. When compared to other professions, architects fees have been found to be fundamentally too low,<sup>21</sup> with some blaming this on the removal of the fee scale. Despite the standard benchmark percentage fee for architects widely

considered to be 5%, a 2012 survey by UK magazine ‘Building Design’ found that only 21% of architects surveyed received fees above 5% of total building cost, while 55% of architects received fee levels of 4% or less.<sup>22</sup> The economic illiteracy of the profession is evident in the fact that 60% of architecture practices do not have business plans and 39% of practices are not measuring the number of non-billable hours of work that they do.<sup>23</sup> On top of this deficit, 62% of UK architecture practices do speculative design work for clients for free<sup>24</sup> – often times to beat out other architects for a job in a kind of ‘race to the bottom’. This may be the only excuse for the fact that 82% of Architects regularly work overtime, with an average work week of 46 hours per week for all workers, whether working overtime or not.<sup>25</sup>

As the economic value applied to architect’s work does not allow room for the contingency that is inherent in it, some architecture practices make up the difference by undermining the economic value of the work of their employees. Some firms do not pay their interns (Note: it wasn’t until 2011 that RIBA changed their charter to require that student placements are paid at least minimum wage<sup>26</sup>) and many do not pay overtime – both scenarios exploiting their employees in order to make the business profitable. Even for those who do pay, wages for year out students between Part 1 and Part 2 have stagnated, increasing only 2.5% between 2000 and 2013, after inflation, compared to partner salaries in non-solo practices increasing 11.5% during the same time period.<sup>27,28</sup> During this same period, the average cost of architecture education increased by as much as 240%, rising to £88,726.<sup>29</sup>

How do we educate young architects about the potential wage exploitation and the inherent economic value challenges ahead? For one, we need to teach them the true value of their time. Time is the most valuable thing that architects have because it is tangibly finite. Architecture schools expect students to give their time freely and work more hours than any other degree.<sup>30</sup> The sheer volume of hours promotes the idea that architecture is a ‘way of life’ that controls all of the hours of your day. Students work through the night without being reprimanded, which teaches them that their time is expendable and worthless, a belief and work ethic that employers later exploit. To combat this trend, Peggy Deamer at Yale University has her students sign a contract at the beginning of the year

stating that they will not ‘do any all-nighters’.<sup>31</sup> Though enforced by the honour system, it sends the message to all students that working through the night is not condoned, nor is it smart practice. In the spirit of promoting just labour practices, The Architecture Lobby is co-sponsoring a certification program with Yale Women and Architexx entitled JustDesign.Us that collects information about the working conditions at US firms and publicly awards firms with a certification of best labour practices. Creating an industry award that rewards good process not just outcomes is one way to educate recent graduates and all architects about which firms value their work while serving as a tool for responsible practices to recruit the best talent.

### **Professional Value System: Expanding Ethics**

To become an architect, like many other professions, is to learn the distinct language, attitude and culture that is taught in the ‘studios’ of architecture schools and replicated in the profession - firms often calling themselves ‘studios’. Architecture is determined by a specific, narrow and ‘secret’ value-system that privileges aesthetics and proper style and protocol over substance.<sup>32</sup> The tight control on the profession, such as the regulation of the title ‘Architect’, kept by bodies such as RIBA maintains the dominance of this culture and perpetuates its existence.

There are many aspects to the Architecture Value System and this discussion will touch on three. Firstly, an architect’s personal and professional reputation is above all built on creativity.<sup>33</sup> Second is the narrative within architecture popularised during post-World War II Modernism – and subsequent questioning that came afterward - that architects are social change makers and have an ethical responsibility to the greater public.<sup>34,35</sup> Third is the strong history and theoretical framework within architecture that ties ethics to aesthetics.<sup>36</sup> These three narratives within the Architecture Value System culminated in the 1980s when the mainstream architecture profession disengaged from urban social issues, instead choosing to focus on form-making. As Robert Venturi sums up in the preface to *Complexity and Contradiction in Architecture*, “The architect’s ever diminishing power and his growing ineffectualness in shaping the whole environment can perhaps be reversed, ironically, by narrowing his concerns and concentrating on his own job. Perhaps then relationships and power will take

care of themselves”.<sup>37</sup>

Almost 40 years out, Venturi’s *laissez-faire* approach to ‘relationships and power’ can hardly be considered successful. Despite architects being taught to connect ethics to aesthetics, the vast majority of architects are concerned with issues of social and economic justice and believe that architecture has a role in those issues.<sup>38</sup> While in recent years architecture’s professional organisations have promoted agendas of sustainability and equitable urban realm design, the RIBA Code of Ethics does not include any responsibility of the architect outside of the architect-client relationship. Meanwhile, in the last decades as the public sector has been defunded, architects have become increasingly more reliant on private developers for work. According to the 2009 RIBA Building Futures report, 50% of architects were employed by the public sector in the 1970s compared to today’s figure of less than 9%. Today over 50% of the construction value of UK architects’ workload is for contractor clients<sup>39</sup> and the majority of income generated by architects is from private clients. This shift from working for public clients with long term social and financial goals to speculative private developers that rely on impatient capital to build for speculative market trends means that today’s architects are being asked to do a fundamentally different type of work – often times tailored to a proforma that doesn’t value ‘the public good’ – that relies on the private monetisation of the public realm and taking on a higher amount of risk. This leaves architects hiding their ulterior motives of design excellence, social responsibility, design innovation & attention to the public realm from clients, often not billing them for hours that are worked.

The truth is that all architecture, no matter the funding source, is an act of spatial and therefore social construction, which has ethical implications for society. As Jeremy Till states, “A client may argue that they are not paying for an architect to address these broader ethics, and an architect may say that the whole idea of wider responsibilities smacks of idealism. But the point is that issues of social ethics are inherent in the design of any building, and just to ignore them does not mean that they will go away.”<sup>40</sup>

There is no doubt that in order for the personal and social values that architects hold in their work to succeed and be valued by clients and the public at large,

the Architecture Value System has to be expanded to include a broader understanding of ethical and social responsibility. One way to approach this in studio is to teach students to incorporate ethical as well as commercial issues into their work. The new contexts in which architects work “certainly demand new relationships and new methods, but even more importantly, updated ideals and ethics. Almost as dangerous as having no moral compass at all would be to attempt to cling to the wreckage of outmoded professional structures.”<sup>41</sup>

As an anecdote, in our studio last year, our students picked their own project sites in Marseille. A number of our students proposed building their private live/work studios in several public plazas in Marseille, effectively choosing to transfer public land to private ownership. Until we discussed in our studio desk crits the ethical and societal implications of what it means to privatise a piece of public land, none of them had any notion that this was a problem nor that land ownership mattered in a studio design project. My point is that if we do not introduce these issues during studio, when do students become aware of them and the role that architects play in these decisions in everyday practice? Part of this is the fault of us as instructors for not briefing them on all that is needed to be considered in site selection and part was the lack of imagination of some students in picking any open space to build on. After our discussions, all of these students were instructed to devise a public component to their building and incorporate public access routes through their sites. The results were mixed, but the truth is that as instructors we needed to have done more earlier on to discuss these issues with every student and link what was being done in studio to what was being taught in history and theory about the position of public space in society. In just this one example of ethical responsibility in the built environment, there are serious consequences for society if our students don't understand how architects are implicated in the stewardship of public space, how their actions effect the larger social and physical experience of place, not to mention the increasingly nuanced blurring of public and private land ownership and what that means for society.

In order to teach expanded ethics, we need to teach a more critical understanding of context in architecture that is not simply form based, but

includes a sense of the global and local networks in which architects work and build. We need to teach both Doreen Massey's 'A Global Sense of Place' and G.Z. Brown and Mark DeKay's *Sun, Wind, and Light*. Architecture is a deeply social process and yet it is valued as an aesthetic pursuit, independent of the messy social and power structures inherent to it. Architectural form is seen both externally and internally as a reflection of the society that produced it and architects must take a stand in regards to how their work affects themselves and others in society. One example of a practitioner doing this is South African Architect Jo Noero, who has committed to only taking projects that conform to the 1994 South African Bill of Rights. The Bill of Rights states that every person deserves a good quality home, and in order to achieve this with limited land, capital and infrastructure, Noero refuses to build single-family homes above a maximum square footage. As a top designer working largely on social housing projects, Noero laments that “one of the consequences of the value system inherent in contemporary architectural education and practice is that there is an implied division between those architects who have so-called design talent and those who are socially committed – the ones with talent move towards formal well-funded projects and the others gravitate towards social architecture – the implication is that social architecture is for those who don't possess the talent to make it in the competitive world of design and form making”.<sup>42</sup> This not only relegates social issues away from the purview of the best design talent, but results in poor social architecture for those who need good design most.

### **Personal Value System: The Personal Value of Doing Good Work**

Finally, as with other creative professions, embedded within an architect's practice is the personal value of doing good work. In *The Craftsman*, Richard Sennett defines craftsmen as people who are engaged in practical work but “are dedicated to good work for its own sake... their labour is not simply a means to another end”.<sup>43</sup> It is this “drive to do good work [that] can give people a sense of vocation”.<sup>44</sup>

This desire to fulfil an individual purpose is particularly understandable in the context of a profession as contingent as architecture which requires a team to work together and make

compromises. Despite an individual's desire for individual agency through meaningful work, it is near impossible for the architect to exhibit self-expression in the finished product. The architect's personal value is ignored in the context of the capitalist system and the professional value system is purposefully designed to be opaque and unknown outside of the initiated and therefore misunderstood external to the architecture profession.<sup>45</sup>

Lazzarato identifies this involvement of the personal in work as a key characteristic of immaterial labour, which requires its subjects to be active participants of a team. Instead of simply disregarding the Taylorist hierarchy of subject and command through the blurring of work responsibilities and active participation, immaterial labour relies on a management that "threatens to be even more totalitarian than the earlier rigid divisions between mental and manual labour (ideas and execution), because capitalism seeks to involve even the worker's personality and subjectivity within the production of value".<sup>46</sup> The worker (subject) becomes responsible for managing his own work and subjectivity through his drive for personal agency and desire to do good work. This blurring of labour power structures can lead to the exploitation of architects who are taught in schools and practice that 'Architecture is not a career. It is a calling!'<sup>47</sup>

What gets lost in this narrative is the issue of power. Power is not a subject addressed explicitly in the learning environment, though it is urgently and acutely felt in the labour environment. There is an inherent power structure in the studio – in the student-tutor relationship and a silently acknowledged one between students considered to be 'doing good work' by each other and the tutors and those who are not. In the labour environment, these studios are reproduced to encourage collaboration but the power structure is inherently different because of the risk and economic reward structures – it is in fact a vertical structure, not horizontal. In addition to teaching students to value their time and abilities, we must also teach them that these hierarchies exist. In a recent *Dezeen* interview, Bjarke Ingels said that it was not realistic for his employees to follow the Danish 37 hour work week because architecture is a "creative profession where you are designing something ... and where there's deadlines, and where it's not a function that you're

fulfilling but you're taking something that doesn't exist, and you're making it exist there those rules don't apply. So that's the price you pay but the reward you get it that you do something incredibly meaningful if you actually love what you are doing and you're doing meaningful work".<sup>48</sup> Ingel's valorisation of creative work being beyond standard labour practices – hours as well as pay – and the endorsement of architectural work as the source of personal meaning is at best naïve and at worst manipulative. Deadlines are not preordained, they are set by management and the architect-client contract. Within that contract, every hour worked is financially compensated at some level to someone – in the case of BIG, perhaps compensation is not given to the overworked employee, but to the management above.

The rest of the Ingels interview frames another important component of the inherent power structures in architecture: the identity of the profession as a heterosexual white male discipline. Unfortunately, there is not space in this essay to do the topic justice, but it is worth noting that the statistics are stark. In 2014, 92% of UK architects identified as white and 79% as male.<sup>49</sup> While incoming students to architecture school has been roughly even for generations, the number of women completing Part 1 was 41%, while only 13% of women are partners or directors in architecture firms.<sup>50</sup> This drop off is now evident during school, with the 2017 Ethel Day study showing that prior to starting their course, 85% of female students and 88% of male students said that they planned to become licensed architects. After the course had started, that number dropped to 63% of women and 79% of men.<sup>51</sup> In the same study, 47.7% of female students reported experiencing some kind of gender discrimination in school – putting gender discrimination above race, religion or sexuality discrimination.

For the profession to be able to adapt and change to current and future challenges, we need greater diversity of thought being generated in the profession. This requires a greater diversity of architects – most importantly, minorities, women and those from different lower socio-economic backgrounds - in our firms, in our schools and, more importantly, leading both architecture firms and schools. We are doing the women and men we teach a great disservice by ignoring not only the subject of work in our teaching/design studio interactions, but more importantly the value

of diversity of experience and thought and the power structures inherent to this work and value.

One way to increase the amount of diverse representation in schools is by committing to hiring a diverse group of tutors, lecturers and invited critics and presenting case studies from diverse practices. In response to the lack of women speaking in panels and in studio design crits, Parlour in Australia started Marion's List, a public register of women in Australian architecture and the built environments, as a reference for people looking for experts to sit on juries, give public talks or teach. In an effort to raise awareness at institutions, Jeremy Till, Dean of Central St. Martin's, has committed to only speaking at events where at least 30% of the presenters are women.<sup>52</sup> We know that representation matters and yet, of the 10 Brookes Year 2 Tech precedent case studies last year chosen by studio leaders, only 1 of them was by a firm headed by a woman architect – 9/10 Stock Orchard Street by Sarah Wigglesworth Architects (though a half point could be given for Diller+Scofidio's Blur Building). On their submitted reports, half the students labelled the architect as Sarah Wigglesworth & Jeremy Till, one just 'Jeremy Till'. The confusion may have occurred because Till gave us a tour of 9/10 Stock Orchard Street. Nevertheless, on this tour the students saw Wigglesworth working in the office. The default response may have been indicative of an underlying bias about architectural authorship and credit, which continues to favour men over women.

### Concluding Remarks: Teaching Value

"[a]ll architecture is social architecture. All architecture is political architecture." –Paul Jones, *The Sociology of Architecture*<sup>53</sup>

The decline of status of professionals to that of traditional working class definitions<sup>54</sup> and the increase in (indebted) highly educated yet economically precarious workers not just in architecture but globally has forced professional organisations to respond. The Royal Institute of British Architects (RIBA) has launched campaigns that promote the idea that the hope for the architecture profession relies on the better articulation of architecture's value for clients and society, as defined by the client's definition of economic value.<sup>55, 56</sup> RIBA presents the economic value of architecture mainly in terms of technical solutions, such as building technologies that contribute to lower

life cycle costs of the building that are often not the sole responsibility of the architect and neglect the day to day immaterial labour and creative work that the architect does. To truly understand the value of architecture work – perceived externally by the client as well as internally by the profession and individuals doing the work – the definition of value must be expanded to include the professional value systems that are taught in schools of architecture and personal value that encompasses greater social and ethical responsibilities. It is between the real work of an architect and the different contradictory value systems that are applied to it where some of the problems of the profession lie.

In Margaret Crawford's 1991 essay "Can Architects be Socially Responsible?" she concludes that given the current context in which architects work, they cannot be socially responsible because the "current gap between individual concern and professional inertia represents a contemporary reformulation of a persistent barrier between the needs of professional identity and the demands of social responsibility".<sup>57</sup> If the current 'Architect as Worker' movement is not outright dismissed as a threat to the internally defined 'elite' status of architecture, it can be embraced as an empowering challenge to the profession to take care of its own as a first step to taking care of others. It requires a revised code of professional ethics and a commitment for that code to be upheld. The current personal and professional values of the architecture profession are working to hold architects down as subjects of capitalism, managed and policed by themselves and their self-prescribed professional values. In order to alter this dynamic, the value system by which architects value their work must be expanded and defended to include longer term definitions of economic value as well as non-economic forms of value.

In order for the profession to adapt and thrive, we must teach our students that there is space for alternative modes of practice, one that is not strictly valued by the parameters set by the speculative development driven capitalist system they will enter upon graduation, and more importantly, that it is worth the struggle to create these new practices for themselves. Every time students are only presented white male architects from Europe or the United States in case studies or design panels, the discussion of client



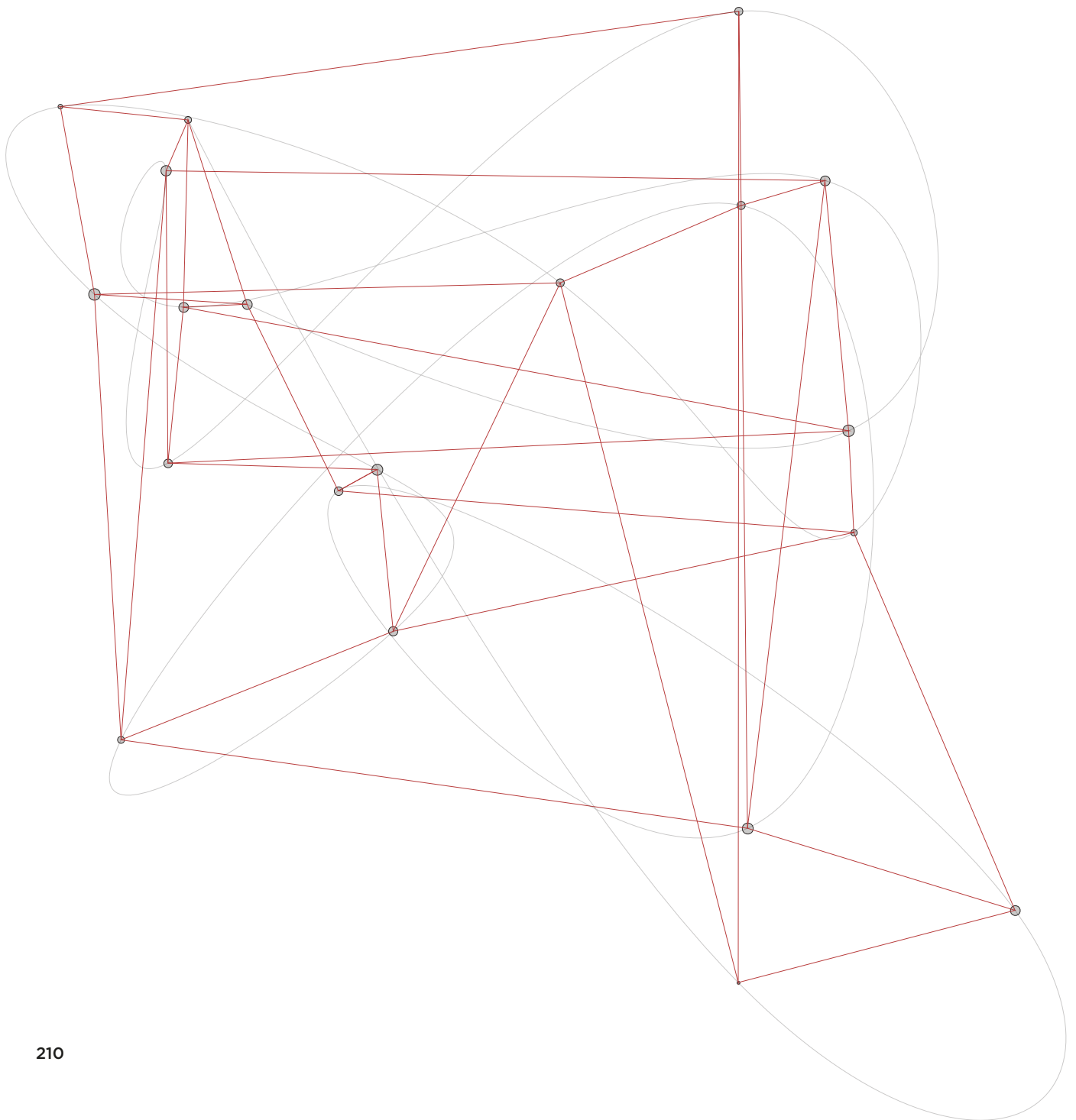
and context is ignored in a case study, an individual 'genius' is promoted, or the mention of an all-nighter is laughed off or ignored, we are complicit in reinforcing the subjugation of architects in the capitalist system. The truth is that we know all of this. But we must be vigilant and remember that the design studio is the learning environment that teaches students about the labour environment. It is where we practice practice and it must be reformed.

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## 2.3 RESPONSIBILITY



# Making do. Enhanced architectural education through pedagogical, cultural, and environmental contrasts.

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## ABSTRACT

This paper describes the evolution of the Design Construct program at the University of South Australia over 24 years from its initial aim to complement a theoretical approach to architectural education to now engaging students in broader cultural and socio-political contexts with Indigenous communities challenged by remoteness and limited opportunity where knowledge exchange is essential for the realisation of appropriate design outcomes.

**KEYWORDS** design-construct, experiential learning, cross-cultural, remote, live project

The Design Construct program at the University of South Australia (UniSA) was established in 1993 and has evolved to become the longest running and largest practice-based teaching program among the 22 schools of architecture in Australasia based on the number, scale and complexity of architectural projects that have been designed and constructed by students<sup>1</sup>.

The Program was established to complement a theoretical approach to architectural education at UniSA with elective courses in design and construction based on live projects. At the time, the architecture program at UniSA was similar to other architecture programs in Australia in dividing teaching between architectural project based design studios (modelled on professional design practice) and core theoretical courses. In spite of the value teaching staff at UniSA have historically placed on engaging students on real projects, most undergraduate student designs rarely developed beyond schematic designs presented as scaled drawings and models. While this stage of

the design process cannot be underestimated as a critical conceptual foundation for the framing of an architectural design, it only represented a small component of the Core Architectural Services identified in the Australian Institute of Architects Fee Guide.

Architectural Services	Fee %
Schematic design	15
Design development	15
Contract documentation	40
Tendering and negotiating	2.5
Contract administration	25
Post construction	2.5

Table 1. Australian Institute of Architects Fee Guide AN02.03.101

The later stages of the design process including Design Development, Contract Documentation, Tendering and negotiating and Contract

Administration were taught via core theoretical courses which were disengaged from the design studio and a design project. Consequently most student designs did not consider factors such as structure, construction, materials, processes, cost, codes, and statutory requirements in spite of these being fundamental influences on the evolution of an architectural design and its manifestation as a building.

### **Scope of early projects**

The early projects of the Design Construct program were relatively conventional in being commercial funded projects in benign climates and close to home.

### **Kanmantoo project**

The first of these projects was a UniSA funded project to design and construct teaching and research facilities on a disused copper mine at Kanmantoo in the hills east of Adelaide. This project involved staff and students in the design, documentation, prefabrication and on-site construction of essential amenities via elective courses offered to students across all year levels in architecture, interior design, industrial design and building programs. In the beginning the program was compromised by a shortage of tools for on-site construction. This project was therefore modest in scale though experimental in its exploration of lightweight monocoque construction. Unfortunately, after only two years, the University sold the mine and the project was discontinued.

### **Moonta project**

In 1995, on the basis of our previous experience on a mine site, the Design Construct program was invited by the District Council of the Copper Coast to design and construct a Visitor's Centre at the Wheal Hughes mine near Moonta, South Australia approximately 175km from Adelaide. The project was the focus of a competitive Architectural Design Studio involving 3rd year students. The design proposals were presented to the Council, one of which was selected and subsequently developed and documented in detail by students and staff. Prefabrication in the School's workshops began in 1996 and construction on site continued in 1997 and 1998 in numerous two week intensive field trips each involving 20 students and 2 staff. The project was opened by the then Premier of South Australia the Hon. John Olsen in 1998.

The project was awarded an Architectural Design Commendation by the Royal Australian Institute of Architects in 1999 which was the first of many subsequent professional, teaching and community awards.

Through these early projects the program established the practice of having students prefabricate as much as possible of the building hardware and fittings including built-in furniture, stairs, balustrades, window frames, doors, catches, hinges et cetera for which the specialist skills of the interior design and industrial design students were invaluable.

### **Cultural engagement**

In 1999 the Design Construct program became involved in a project which significantly expanded the program's scope and capacity. Architecture students from the Universities of South Australia and New South Wales were invited to collaborate in various design projects in and around the Aboriginal town of Warburton located in the traditional Ngaanyatjarra region of Western Australia. This was the first engagement students and staff had with Aboriginal people and the first time the program was to be challenged by such a remote and arid location 2500km from Adelaide and 560 km from the closest town at Laverton.

Warburton began as an Aboriginal mission in 1934. It became the focus of protracted arguments between state and commonwealth governments, anthropologists and activists about how best to manage the fate of the Aboriginal people whose remote existences were set to collide with a series of major national defence projects that began in the late 1940s. Ngaanyatjarra country lay directly under the flight path of the British Blue-Streak missile tests being launched from Woomera, South Australia on a north west trajectory over what was the Central Aborigines Reserve totalling an area of around 170,000 square kilometres.

In the early 1950's the missile tests combined with the British atomic bomb tests at Emu Field and Maralinga in South Australia required access throughout the unexplored central and western desert areas of Australia which was undertaken by the celebrated Commonwealth surveyor Len Beadell. This led to the excision of large areas of reserve and the concentration of remote nomadic Aboriginal groups in missions such as Ernabella and Warburton. For



those Aborigines, the dislocation from a traditional life as nomadic hunter gatherer to be concentrated into missions was a significant disruption to more than 50,000 years of continuous culture.

By the 1970's after the missile and bomb testing had long ceased, many Aboriginal groups had left Warburton and moved back to their traditional land as part of the *homelands movement*<sup>2</sup>. Most left to escape the high level of social dysfunction and political instability characteristic of many mission towns and to return to their traditional lands to re-establish their cultural connection to their land, to uphold birth country, to maintain renewal cycles and protect sacred sites.

### Patjarr project

Students from UniSA organised camping gear and more than two weeks supply of food and set out in a bus and 4-wheel drive vehicle, each pulling trailers for the five day journey via Uluru (Ayers Rock) involving 600km of corrugated dirt roads. Six student projects had been identified including homeland housing, community meeting areas, a community orchard, art workshop facilities, and a community art gallery. Each project group comprising students from each University engaged with the particular Aboriginal client group assisted where necessary with an Aboriginal interpreter and the community architect.

One of those groups travelled north to the Patjarr Aboriginal Community, 130km north of Warburton. Patjarr was at the end of the road with a population of about 50 people housed in corrugated sheds known as *transition houses*<sup>3</sup> on quarter acre blocks fronting the street.



Figure 1. Patjarr aerial view

The non-Aboriginal community administrator had identified an opportunity for the community to sell art and artefacts to fly-in visitors and proposed that a gallery at the community airstrip be built. This project while not involving a high level of community input in the initial design did engage students in a wide range of community activities and discussions which led to a conscientious effort by students to incorporate references to the local serpent dreaming in the plan layout.

Initial designs were further developed in detail as studio design projects in Adelaide and Sydney from which emerged a final design proposal. The project being in such a remote and arid location required an appropriate passive design strategy linked to specialised methods of prefabrication, construction and transportation over long distances and extremely rough roads. Prefabricated building components made in UniSA's workshops were skilfully packed into a 12m container and transported by contractors skilled in "outback" transportation.

In 2002, both University groups converged on Patjarr to assemble the prefabricated components into a completed building in overlapping two-week shifts. The project was opened in 2003 with traditional dancing, singing and body painting in coloured ochre which the staff and students were encouraged to join.

The Patjarr project revealed an unexpected aspect of cross-cultural engagement which arose out of the efforts by the students to incorporate cultural references into their initial design proposals. Neither the students nor the older members of the community spoke the same language but drawing in the sand was found to be a very effective means of communication particularly in understanding spatial relationships in plan view. This graphic capability is evident in the traditional markings in the sand and paintings which are traditionally created horizontally on the ground often depicting relationships between waterholes or camps in the same way as a map. It was surprising therefore to have the community readily understand the student design drawings.

This realisation raised a fundamental architectural question: how it was that an ancient nomadic culture with an enculturated skill for reading architectural drawings could be reconciled to living in steel sheds on quarter acre blocks?



Figure 2. Discussing and drawing ideas for a ceremonial area with Pulpura and Dorethy at Patjarr in 1999.

It was clear from a purely climatic and topographic perspective that the design of the “housing” was inappropriate comprising two steel clad single rooms separated by a breezeway on a concrete slab. The rooms were uninsulated and poorly ventilated, there was no roof overhang to shade the external walls, and the breezeway between was prone to storm water inundation. These dwellings provided no defines against the desert extremes of freezing nights and scorching days and, as a consequence, the people lived outside around an open fire often in makeshift tents. Given the obvious unsuitability of this housing from a technical viewpoint it seemed reasonable to question the cultural suitability and whether the householders were given any choice in the matter and, more generally, whether patterns of housing and planning in other communities in central Australia were similar?

### Indigenous research

The Patjarr experience established the educational value to students exposed to the cultural and climatic contrasts in remote indigenous communities and with continuing a greater level of engagement with those communities. It also established the need to develop

a much deeper understanding of the contemporary Aboriginal living environments and the appropriate protocols for any future engagement.

In 2003, Design Construct program attained competitive research funding from the Australian Housing and Urban Research Institute (AHURI) to investigate best practice methods for cross-cultural consultation aimed at improving built environments for remote indigenous communities<sup>4</sup>. This research revealed a paucity of both anthropological and architectural expertise in the delivery of Aboriginal housing and planning exacerbated by little or no consultation with the end users. Instead, it found that the provision of standardised housing and infrastructure for communities in central Australia was ubiquitous. Overall community planning layouts were usually a function of the economical reticulation of power and water resulting in housing densities similar to Australian suburban subdivisions. The resulting proximity of disparate kinship groups, often from different language groups, into communities did not acknowledge that Aboriginal groups did not share a social and cultural homogeneity and that the term “community” misrepresented extended family groups who are tied by a bore or a store but in other circumstances would not be living together<sup>5</sup>

Further research identified that house types were defined in terms of the number of bedrooms ranging usually from two to four bedrooms. Variations to house layouts are limited in spite of numerous alternative design proposals by architects and builders. In recent years, in spite of climatic responses which have resulted in the provision of verandas around houses, and improvements to wet area layouts, standardised houses do not accommodate large increases in household numbers which arise from extended family transitions. This often results in overcrowding and aggravations between family, language, age and/or gender groups exacerbated by the close proximity of houses and rooms in houses which lack traditional separation between genders or between particular kin relationships required by the cultural rules relating to avoidance. These factors at a housing and at community level often lead to stress, damage, disillusionment and abandonment raising the question of whether the economies of scale justifying housing standardisation account for the costs of maintenance, replacement and social dysfunction.

### Mimili projects

The AHURI research revealed a number of potential design and construct projects in central Australia which included single men's and single women's accommodation or "camps" for the Mimili community in the Anangu Pitjantjatjara Yankunytjatjara (APY) Lands in the central desert of South Australia, 1200km from Adelaide. The requirements for these projects became more clearly defined through numerous visits by staff and students to engage the community in discussions on the detail of each design mindful of the complex cultural and social factors affecting Aboriginal community life together and the potential difficulties with communication. Key research outcomes identified:

- the dominant traditional visual and oral cultures where English is a second language for many Aboriginal people;
- that Aboriginal people tend to speak on behalf of their family groupings rather than for the community;
- traditional hierarchies are linked to restriction of information between genders and various levels of initiates;
- that storytelling and informal conversations based upon experience and history are seen as more effective ways of engaging Aboriginal people than direct questioning;
- that consultation with Aboriginal people is based upon supportive partnerships between communities and their consultants to encourage the recognition and practice of mutual responsibility;
- that adequate time be given to reveal the often complex cross-cultural issues arising from family or political interests and to develop a response.

Before engaging in any consultation, staff and students were appropriately grouped to align with a particular gender and age groups in the Mimili community. Only when discussions had engaged all the groups did the whole community come together for formal decision making. An interesting aspect of these discussions was the relative ease in which the students could engage with the community particularly through shared interest in football and other sports. Following these discussions the community unanimously confirmed the need for both single men's and single women's accommodation with a particular urging by the women to build the single men's accommodation first.

### Tawara watiku: single men's camp

The single men's accommodation was an important culturally driven deviation from the standardised planning and housing options in that it was specifically intended to replicate the traditional separation of single men from extended family groups. This separation called *tawara watiku* provides a place for young men to learn traditional law and culture, commonly referred to as "men's business". The need for this project was an indication of the failure of standardised community planning structures to effectively nurture these important cultural practices.

In 2005, after two years of consultation with the Mimili Community the Design Construct program negotiated a funding agreement with the South Australian Department of Families and Communities to design and construct housing for 12 single men.

The discussions with the men that followed were assisted by the younger men being able to speak English and their willingness to draw. Out of those discussions and sketches evolved a design brief which embodied numerous important cultural features including:

- a symmetrical plan which separated the accommodation into two wings to permit the cultural practice of avoidance;
- communal fire pits associated with bedrooms and common space with seating areas for cooking;
- large verandas to accommodate men visiting for "sorry business", "men's business" or popular community football matches;
- shared sleeping spaces;
- small horizontal screened windows to facilitate surveillance;
- accommodation for older men (Tjilpi's) to supervise and teach "men's business".

In the same discussions the architecture students also proposed their design ideas responding to the location and climate, including:

- large breezeways separating living and sleeping areas for circulation and ventilation;
- large roof overhangs to shade external walls;
- sound attenuating walls between sleeping spaces;
- high thermal mass concrete floors;
- high thermal resistance walls;
- built-in storage, benches, beds and seating;
- raised slabs 300mm above the ground to counter wind driven dust and as an edge to sit on.

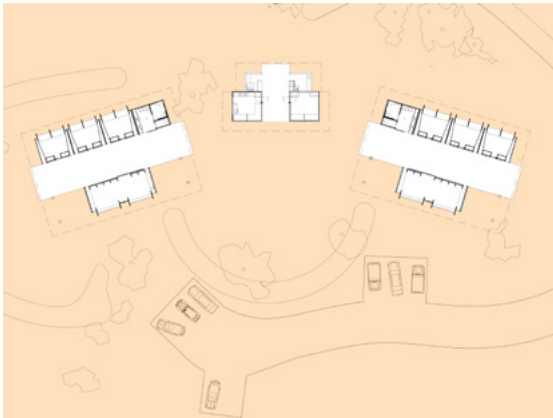


Figure 3. Single Men's Housing plan, Mimili Aboriginal Community, APY Lands, SA (2008 - 2011)

The ideas that came of these meetings evolved into a coherent design which included many features not provided in the South Australian Government's standardised housing. The final design had the full support of the single men, the older men and the community. Ironically, it was the numerous planning, health, housing, and other regulatory agencies which made the progress of the design proposal extremely tedious. During this period students worked with staff and consultants preparing the documentation in design studios.

In 2008, Development Approval was finally granted and prefabrication of the project commenced and continued over the next two years involving 16 intensive two week prefabrication elective courses each comprising up to 25 students. In April 2009, students and the Mimili Community worked together on site to install services and pour slabs in the first of six intensive site construction elective courses each comprising as many as 40 students to complete the project. In all, the project involved about 500 students many of whom enrolled in more than one of the several courses offered. The project was completed in June 2011.

#### Alukuru: single women's camp

At the same time that the design for the single men's accommodation was being discussed and developed, female staff and students were engaged in developing a brief for the single women's accommodation. This project was also an important culturally driven deviation from standardised planning and housing

options in that it was specifically intended to replicate the traditional separation of single women from extended family groups, "In nuclear family households the domiciliary spaces are sometimes divided into male and female activity zones. Customarily nuclear family camps were often abandoned during the day, especially in larger camps where husbands gathered at the single men's household and wives at the single women's household"<sup>6</sup>. The combination of the standardised nuclear family accommodation in addition to single men's and single women's accommodation would substantially provide housing for all domiciliary groups in the community.

Unlike the men's accommodation, the chosen site for the women's accommodation was in the centre of the community surrounded by amenities and social gathering points. The shop and art centre are very popular points of interest during the day while the community centre and school basketball court are often in use in the evening. This position allows a high level of security as members of the community will be surveying the site throughout their daily routine observing who enters and exits the premises and being able to react quickly to any disturbance.

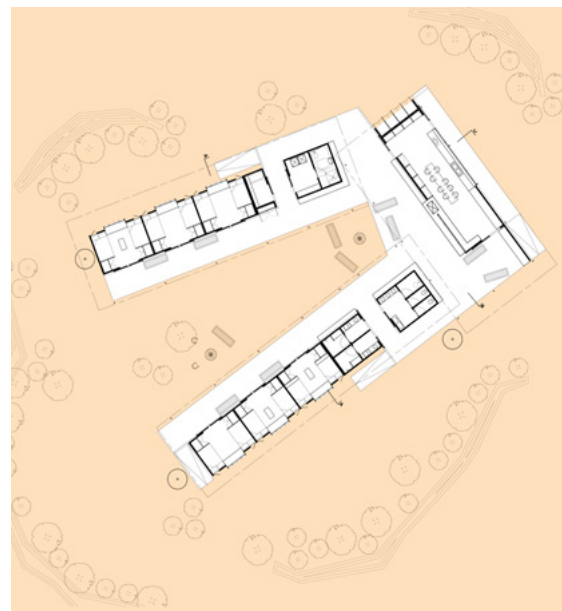


Figure 4. Mimili women's accommodation plan from Cristina Nadasan, 'Alukuru: Mimili Women's Housing', (unpublished master's thesis, University of South Australia, 2012)

The design proposal evolved to provide a range of spatial conditions employing outside spaces, veranda



spaces for varied weather conditions and large screen sliding doors blur the boundaries between inside and outside providing shelter or exposure in a variety of areas where the women can cluster in groups to sleep or socialise. This concept is based on the traditional lifestyle where temporary windbreaks and sun shades were built and easily moved in response to changing environmental surroundings. The design proposal also acknowledges avoidance rules by providing wide sightlines achieved through open indoor and outdoor circulation spaces allowing occupants to predict the positions of the people around them via footprints in the sand and surrounding noises<sup>7</sup>.

The design proposal also separates wet areas into designated facilities with circulation to the entrances branching away from public spaces, creating spaces that can be used privately by all members of the household at all times. Infant care facilities are provided in the form of a changing table and waste baskets and specialised bathing troughs in the toilet and shower wet areas. This separation also keeps waste away from clean areas in an effort to uphold a high standard of health<sup>8</sup>. Unlike the men's project, this project has not attracted government funding.

#### **Port Resolution project, Vanuatu**

In early 2012, on the basis of evolving experience with remote Indigenous projects, the Design Construct program was invited by the Chiefs of Tanna Island, Vanuatu to assist a community at Port Resolution to design and construct an eco-tourism enterprise as a means of generating income for children's education.

Port Resolution is located on the east coast of Tanna Island in the archipelago of 83 islands which comprise Vanuatu in the Pacific Ocean approximately 1400km east of Australia. It is a very remote and idyllic location arrived at by air on the west coast and then via 4-wheel drive vehicle tracks past an active volcano to the Port Resolution community of 300 people living in thatched huts adjacent to a protected harbour, coral reefs, hot springs, palm trees and crystal waters of the South Pacific. Port Resolution is typical of outlying island villages having no reticulated power or water. Food is cooked on open fires and there are only three rudimentary flushing toilets and cold showers provided primarily for tourists. The region is prone to tropical extremes such as Cyclone Pam which in 2015 devastated Tanna Island destroying bungalows and

crops requiring urgent international aid.

Vanuatu is classified by the United Nations as a 'Least Developed Country' due to its lower socioeconomic development in areas of poverty, limited resources and economic vulnerability<sup>9</sup>. However the New Economics Foundation (NEF) in 2016 ranked Vanuatu 4th of 140 countries comparing wellbeing, life expectancy, inequality and ecological footprint in their Happy Planet Index (HPI). These contrasting perspectives suggest that many of the qualities which communities such as Port Resolution enjoy need an appropriate level and technical response.

UniSA staff and students first visited Port Resolution in 2012 to meet the community and to survey the site and resources. Unlike previous projects in Australia, the Port Resolution Project was a bottom-up community based initiative unencumbered by funding conditions or government regulation.

It was clear from our first visit that existing family run accommodation provided attractive traditional, timber-framed thatched bungalows clad in panels woven from local pandanus and coconut leaves. These bungalows exemplified a highly evolved building expertise employing locally sourced materials which were skilfully woven and bound to achieve a well-adapted tropical architecture that provides natural ventilation through the openness and porosity of the framing and lining elements.

However the provision of toilet and shower amenities in family run accommodation was typically rudimentary often compromised by:

- Poor floor drainage;
- Waste water discharge to open ground;
- Blocked waste outlets;
- Mouldy or rotten woven pandanus or coconut leaves adjacent to showers;
- Broken tiles or rough finishes to masonry walls preventing effective cleaning;
- Cold water or in many cases, no water;
- Only one shared toilet and shower for up to 30 visitors

The highly evolved traditions in timberwork, weaving and thatching and use of local materials did not include the technical capacity required to achieve toilets, showers and kitchens of a standard expected of international visitors. Staff and students concluded that a successful outcome would need to combine vernacular construction methods with appropriate



incorporation of modern technical practices. This formed the basis for a series of participatory design discussions to resolve how our respective skills and resources might be combined to meet visitor expectations while limiting the impact visitors might have upon an unblemished traditional culture and natural environment.

On Efate, the main island of Vanuatu, the effects of tourism and foreign influence have been largely detrimental to the traditional culture and environment of Vanuatu.<sup>10</sup> For the outer islands largely spared these detrimental influences it is a matter of balancing existing cultural and environmental values against legitimate economic opportunity, particularly the opportunity to an education, which is essential if Vanuatu's dependence on foreign aid and professional assistance is to be reduced and the option of selling land to foreign interests is to be avoided.

In reconciling cultural and environmental concerns against visitor expectations the students and the community established informal principles for the project including to:

- maximise engagement of local community, skills and materials;
- design for a high level of durability and reliability;
- maintain cultural integrity and visitor experience;
- minimise cultural and environmental impact;
- minimise imported materials and components;
- minimise technical complexity and dependence on external expertise

### **The design brief**

Following initial observations and surveys, a formal community briefing was held to discuss issues of day-to-day running of the facility, accommodation requirements, meal preparation, laundering, building servicing and maintenance. This brief was further developed in subsequent visits. In summary the scope of the design proposal included:

- bungalow accommodation for 4 and 6 visitors (six bungalows in total);
- a main building consisting of restaurant, bar, kitchen, office, and ablution facilities;
- an outdoor kitchen accommodating traditional village cooking methods;
- a maintenance and storage workshop;
- a laundry

### **Building construction**

The implementation of the project was entirely dependent on UniSA staff and students working with the local community combining Melanesian and western knowledge, skills and resources. To that end the community would provide the raw materials, skills and labour and UniSA would provide tools, building and plumbing hardware, engineering expertise and financial support. The students would raise the money required through selling cakes, running barbeques, exhibitions and film nights and appealing for donations.

Construction of the Port Resolution project commenced in 2014 and is on-going. The ability of local builders to lay concrete blocks was evident in their use for the construction of schools and some houses where durability and cyclone resistance is preferred. However blockwork construction requires the importation of cement and reinforcing steel and results in buildings which are poorly ventilated and have less natural light. For reasons of structural stability and achieving cleanable surfaces with integrated plumbing a limited use of blockwork was incorporated for showers and toilets of the bungalows. Elsewhere, timber construction was used however the imperative of cyclonic resistance led to the use of sawn timber which would have a predictable structural performance. This presented a model where the benefits of concrete blocks could be combined with abundantly available high strength timber with woven walls and thatched roofs.

Construction of the project was planned to be undertaken collaboratively over a series of two week site construction intensives, each involving a group of UniSA students and staff working with the Port Resolution community and local contractors. The first two week construction on site took place in 2014, building the foundations for the wet areas of the first three bungalows. This involved plumbing, trenching and reinforced concrete foundations to Australian standards. While concrete foundations are common practice in the construction of wet areas in Vanuatu, from our observations steel reinforcing and integrated plumbing are usually rudimentary. The collaboration between the community and staff and students in building the foundations provided the opportunity to transfer technical knowledge and skills. This included the students learning how the local builders efficiently mix and transport concrete in a tarpaulin which is

a highly effective method when powered mixers are unavailable.

Construction was paused in 2015 due to the devastation and subsequent rebuilding after cyclone Pam. It resumed in 2016 with the building of blockwork walls for the wet areas. The concrete blocks used to build the walls were made locally by the community on the site using fine grain coral, beach sand and cement in single steel moulds. The local men and students worked together to achieve a systematic installation of steel reinforcing, filling of cores and incorporation of plumbing again to Australian standards.

The management of waste water also includes the construction of waste water treatment system built to meet UNHCR standards augmented by employing low-tech aeration process to prevent the potential contamination of ground water and coral reefs. Research and testing of this system has been supported by the UniSA and it is hoped to provide a model for improved low tech waste water treatment for similar remote community projects.

The final construction on site intensive for 2016 involved construction of the timber frame of the first bungalow. Again, a synthesis of local methods and Australian standards and engineering were used to develop an appropriate model. Locally available timber was tested and graded by the University of South Australia and the frame was subsequently engineered to withstand cyclonic winds. This involved the substitution of nails and galvanised strapping (which rusts in coastal conditions) for large stainless steel bolts. The timber frame was also connected to the concrete walls of the wet areas to provide bracing, demonstrating the complimentary combination of the two building materials. The outcome was a timber building frame which matched the vernacular houses in material and appearance, but built with greater structural integrity and longevity. This work was undertaken with the help of a skilled local contractor, who was instrumental in coordinating local men to assist, providing an apprenticeship of sorts during our construction period.

The final cladding of the bungalow was undertaken mostly by women who wove palm fronds to create thatched roofing and woven split bamboo to create panels of wall cladding. The end result is a building which meets visitor expectations, has the structural integrity to resist cyclones combined with the high

level of craftsmanship and building skill exemplified in the traditional houses constructed from local materials.



Figure 5. Port Resolution bungalow (2017).

This combination of contemporary and traditional skills and techniques could not have been achieved by either the University staff and students or the Port Resolution community in isolation. Both parties have brought contributions into the shared process of construction and by this, a synergistic process of co-production has been achieved.

Promisingly, in support of the intention that the Port Resolution Project be a model for others to replicate, a nearby family owned enterprise has recently started construction of a new tourist bungalow, based on the plan of the first bungalow. This is the initial endorsement that the program's hybrid prototype of contemporary and traditional ideas may prove an adoptable model that could improve the experience and ultimately profitability of family and community owned visitor accommodation in Vanuatu.

## Conclusion

The Design Construct Program at UniSA was originally conceived as a way to complement theoretical teaching with design projects based on constructed outcomes. The program found its way into poor indigenous communities, introducing staff and students to unexpected cultural and environmental contrasts beyond the usual urbanised contexts of student design projects. These engagements led to research into best cross-cultural practices and further work with remote indigenous communities to develop a specialisation which the program continues to

build on. It is hoped that the continuation of these engagements will continue to benefit indigenous communities as well as our students exposed to the contrasting pedagogical, cultural, and environmental challenges they entail.

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# A Place To Be. Rendering black bodies visible.

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## ABSTRACT

The *A Place To Be* project asks: Who makes place and who occupies it? Who is left out and behind in traditional design and development issues? What happens when a primarily white city (Portland, Oregon) and a primarily white discipline (architecture in the U.S.) tackle design-based inequities? What does it mean when the perceptions and values of the praxis of architecture differ greatly from those with whom we are supposed to be designing? In order to address, these questions, this paper must first discuss what it means to be a black body in the United States.

**KEYWORDS** culture, participatory methods, pedagogy, public interest design, equity

## Black Bodies in America

*“The Negroes are born white apart from their genitals and a ring around the navel, which are black. During the first months of life the black color spreads out from these parts over the whole body. [...] And it might be that there were something in this which perhaps deserved to be considered; but in short, this fellow was quite black from head to foot, a clear proof that what he said was stupid.”*—Immanuel Kant<sup>1</sup>

*“All our observations of African man show him as living in a state of savagery and barbarism, and he remains in that state to the present day. The Negro is an example of an animal man in all his savagery and lawlessness. [...] Since human beings are valued so cheaply, it is easily explained why slavery is the basic legal relationship in Africa. [...] The Negroes see nothing improper about it ... The Negroes are enslaved by the Europeans and sold to America. [...] In all the African kingdoms known to the Europeans, this slavery is endemic and accepted as natural...”*—G.W.F. Hegel<sup>2</sup>

It is not by accident that black bodies have been subjugated in the United States and it is not an American phenomenon either. It is a belief system established by white Europeans through the invention of race. The invention of racial classification is credited to French physician François Bernier’s 1684 publication of, *A New division of Earth by the Different Species or Races which Inhabit It*.<sup>3</sup> Bernier’s race classification is based in physical features such as facial type, cranial profile, hair texture. By the 18th century another European figure Carolus Linnaeus, emerged to further define the “races” into seven categories.<sup>4</sup> By the 19th century we see an explosion of European naturalists publishing works on race. All dividing humans into their own idea of race. What these publications held in common was defining the superior race as the Caucasian race and the lowest was the Negro race.<sup>5</sup> These belief systems were then used to establish Caucasian Europeans as the dominant race and, therefore, served as a rationalisation for the

subjugation and colonisation of the peoples of Africa (and elsewhere).

Simultaneous with the establishment of race as a category of scientific inquiry, and therefore human classification system, philosophers would also provide their own racially-based rationalisation for European superiority. In his aesthetic treatise Immanuel Kant—the Germany philosopher credited with helping to found modern philosophical thought—referred to the black man as insignificant and sub-human.<sup>6</sup> His successor, German philosopher Georg Wilhelm Friedrich Hegel would state that Africa had no significance to the history of man and had no value.<sup>7</sup> He would describe its people as amoral and soulless. Out of these belief systems the social construct of whiteness emerges.<sup>8</sup> The white race is defined to be the superior race and it is not questioned. Whiteness itself does not look critically at itself.

Starting in the 18th century and continuing in earnest in the 19th and 20th centuries in Europe and North America both the humanities and the sciences would affirm a social construction of whiteness whose outcome was to limit and control the movement of black bodies. The black body was (and is) kept in place by the creation of laws, policies, and the normative reinforcement of belief systems based on this “scholarly inquiry.” In the United States, this historical cultural construct still operates based on a whiteness belief that it has the right to police and control black bodies; and a right to appropriate all that a black body produces.

This control began with slavery. Slavery in the United States was the legal institution of human chattel that existed in the 18th and 19th centuries after it gained independence and before the end of the American Civil War.<sup>9</sup> Slavery had been practiced in British North America from early colonial days, and was recognised in all the Thirteen Colonies at the time of the Declaration of Independence in 1776. By the time of the American Revolution (1775-1783), the status of slave had already become a caste associated with African ancestry, contributing to a system and legacy in which race played an influential role. At the time, the United States Constitution was ratified (1789), a relatively small number of free people of color were among its voting citizens. During and immediately following the Revolutionary War, abolitionist laws and sentiment began in the Northern states; in addition,

as most of these states had a higher proportion of free labor, they abolished slavery by the end of the 18th century, some with gradual systems that did not free the last slave until the 1800s. But the rapid expansion of the cotton industry in the Deep South after the invention of the cotton gin led the Southern states to depend on slavery as integral to their economy. They attempted to extend it as an institution into the new Western territories, believing that slavery had to expand, or it would die. In addition to slavery, control of black bodies was reinforced by the Black Code laws (1800-1865) that legally restricted the civil rights and civil liberties of African Americans; and, as a consequence negated any potential for a free and open relationship to public space and the public sphere. While Congress did abolish slavery via the passing of the Thirteenth Amendment to the United States Constitution (1864), the Black Codes and the subsequent Jim Crow laws continued to restrict black bodies from freedom and agency.<sup>10</sup> Jim Crow laws were state and local laws enforcing racial segregation in the Southern United States until 1965. They mandated *de jure* racial segregation in all public facilities in states of the former Confederate States of America, starting in 1890 with a “separate but equal” status for African Americans. This body of law institutionalised a number of economic, educational, and social disadvantages. *De jure* segregation mainly applied to the Southern United States, while Northern segregation was generally *de facto* — patterns of housing segregation enforced by private covenants, bank lending practices, and job discrimination. Jim Crow laws mandated the segregation of public schools, public places, and public transportation, and the segregation of restrooms, restaurants, and drinking fountains for whites and blacks. Generally, the Jim Crow laws were overruled by the Civil Rights Act of 1964 and the Voting Rights Act of 1965, but years of action and court challenges were needed to unravel numerous means of institutional discrimination.<sup>11</sup>

The African American origin story is unique compared to other groups who immigrated to the United States. Their black bodies were ripped from the continent of Africa to serve as slaves for colonists in the New World, and from the very beginning they were seen as nothing more than livestock. A problem that needed to be contained and controlled; interlopers who were needed in order to make a profit but at the



same time their black bodies represented to whiteness all that was evil and creature-like in humanity. Once freedom was given, it took no time for those in power to use other laws and beliefs to control and suppress black bodies in this country. From Jim Crow laws to Housing Authority policies, black bodies and spaces continued to be controlled. Access by black bodies to their autonomous social production of public space continues to be constrained despite the passing of the Civil Rights Act by both laws as well as beliefs and practices.<sup>12</sup> These have included (but are not limited to): slave ships, slavery, the auction block, slave quarters, lynching, the Ku Klux Klan, segregation, Jim Crow, black face, redlining, public housing, prison, stop & frisk, gentrification, and gerrymandering just to name a few.<sup>13</sup>

This displacement and fear of black bodies is a tool used by the construct of whiteness to prop itself up as superior to all other races and to legitimise the oppression of black bodies in the United States. As much as the construct of whiteness would like us to believe that blackness sits outside of whiteness, and that the American experience is that of only white European values, it is not.<sup>14</sup> American culture has, in large part, been created by black experiences. Black Americans have contributed significantly to music, literature, art, science, and food, as well as, all other aspects of American life.<sup>15</sup> In the context of the United States blackness sits firmly in whiteness not outside of it. Much of what blackness has generated in terms of culture has been that of remixing and reinterpreting white Eurocentric values. Blackness in part has come to represent the United States conscious, its soul. Black bodies have become a symbol of a past that for most of white America, is shameful. The problem becomes whiteness refusal to acknowledge its true past, but continues to omit from its history the events and realities of how it came to be. The problem of whiteness is also an architectural problem, because the regime of architecture refuses to be critical of its continuing role of the erasure and confinement of black bodies in the United States.

#### A Place To Be

*“Architectural History is White, Architectural Theory is White, and Architectural practice, no matter what color the “owner” and “workers” is White. Although I have insisted that I have no faith in history, theory, or*

*practice, I can now be more specific. I have no faith in these notions because of their pronounced and pervasive “Whiteness,” which denies outright any substantive black voice.”—Darell Wayne Fields<sup>16</sup>*

*“How can architectural modes of production, then, resist image and representation to translate the black American experience into spatial forms, and to create alternative spaces for creative expression and affirmation of daily life in American society? How can architecture synthesize the subjective spirit and the objective intellectual product to construct a uniquely ‘American American’ Architecture born of black complexity?”—Mario Gooden<sup>17</sup>*

Today black Americans still struggle with accessing place/space in the United States.<sup>18</sup> They are interlopers in their own country, whose bodies are still used to make a profit and entertain white America. The practice, history and theory of architecture has—up to this point—all but ignored Black Americans except when designing structures to contain them. This omission from architecture has left Black Americans outside of the regime of architecture. Architecture in the United States has aligned itself with Whiteness. It still sees itself as a discipline for gentlemen; something that those of privilege participate.<sup>19</sup> Architecture is a tool used by whiteness not only to control and oppress those “outside” of whiteness, but also it allows whiteness to demonstrate its power over others. Despite the architecture regime’s practice of excluding otherness, others do exist and have existed all along. Like the construct of whiteness architecture has chosen to exclude those histories, theories, and practices from its pedagogy.

Walk into almost any architectural institution in the United States, whether academic or a practice, and what you will find is an absence of black bodies, with only a little over two percent of licensed architects being African American. In its academic institutions, most do not have any black representation on faculty. Most institutions don’t include black architects in history, theory, and studio classes. It is as if black bodies don’t exist, or no black architects have contributed to the discipline. Architecture’s academic pedagogy in white European ideology seems to protect those values at all cost. How does a person who exists in a black body fully engage in an architecture that was used historically as a tool to suppress black bodies, if their own perspective is not allowed to be expressed?

The aforementioned historical context and its theoretical implications are at the heart of the *A Place to Be* project. The project asks:

- Who makes place and who occupies it?
- Who is left out and behind in traditional design and development issues?
- What happens when a primarily white city (Portland, Oregon) and a primarily white discipline (architecture in the U.S.) tackle design-based inequities?
- How do spaces construct a particular worldview for their occupants; how has the discipline of architecture passed on that worldview; and, how the profession has embedded that worldview within the built environment?
- What does it mean when the perceptions and values of the praxis of architecture differ greatly from those with whom we are supposed to be designing?

In other words, how to design with communities when the designers are primarily white and when the community-clients are not?<sup>20</sup>

*A Place To Be* began with a discussion led by artist Renee Mitchell and writer Laura Lo Forti held at the offices of Portland, Oregon's historic African-American newspaper *The Skanner* with the aim of supporting the establishment of a permanent Black Arts and Cultural Center for the city; and, thus, making Black Arts, Culture and Heritage visible in a place of overwhelming whiteness (both demographically and culturally).<sup>21</sup> In attendance at the discussion, Dr. B.D. Wortham-Galvin pitched a process rather than a project as a way to get started.<sup>22</sup> This values-centered process garnered support from Black community leaders and city organisations which led to an ultimately successful bid for a National Endowment of the Arts, Artworks grant administered and facilitated by Wortham-Galvin.<sup>23</sup>

The design process articulated by Wortham-Galvin and pursued through the grant included the following goals, strategies and objectives:<sup>24</sup>

- Finding plural ways to engage people in the discussion of their needs and desires in order to achieve co-production.
- Using design-thinking to find opportunities within a disinvested community and recognising and supporting what is already successful.
- Rethinking static notions of cultural and community centers by supporting new hybrids that respond specifically to the constituents.

- Using architectural design as a way to construct a conversation between multiple partners—not as an offering of a finite solution.
- Visualising research and conditions so they become more apparent to stakeholders at all levels.
- Having both students and community members embrace culture as a process that is lived; not a product to be displayed.
- Using a mix of strategies (instead of one) to stimulate community dialogue in order to broaden the base of who might be involved and continue to cycle through response to see which ones continue to resonate over time and with many people (versus those that are singular and/or temporary concerns).
- Having students frame their work through a series of questions rather than declarations in order to destabilise the authority of the architect and promote the agency of the “user”.
- To challenge the notion of who is an expert and/or what qualifies as expertise.
- To challenge the notion of culture as static, inert, and/or singular.
- To include the agency of everyday people in the design of the built environment.

This process was being deployed in a city where the U.S. Census Bureau estimates that as of 2015, the black population of Portland makes up roughly 6% of the total population. Of the nearly 584,000 people living in the city, about 37,000 of them identify as black. This percentage is significantly smaller than most other major cities in the United States. The reasons behind this are unfortunate and complicated, and - though they have certainly informed the process - they will not be discussed specifically herein. What concerns us most here is what resources are available for black people in Portland to gather and nurture their culture.

In addition to the factor of a smaller population, there are also major issues with gentrification in numerous North and Northeast Portland neighborhoods that used to be predominantly black. Rental and ownership prices have dramatically increased and will continue to do so, and more white households and businesses are moving in. This means that many black people who once lived in “close-in” have been forced to move to more affordable areas which are far away from their original communities. In addition, the people who still live in historically black neighborhoods comment that they have lost

the community bonds that they once felt. James Armstrong, a board member of the non-profit, Alberta Main Street, says “We had a community check-in earlier this year [...] One of the overarching themes that came through is the street has changed. There’s less crime. People said, ‘We’re happy about that. What we’re not happy about is the sense of community is gone. I have all these new neighbors and they’re not talking to me in the same way.’”<sup>25</sup>

Begun in 2015, *A Place to Be* asked why black experiences in Portland had been rendered invisible. Drawing upon oral history, participatory and social practice methods (as well as conventional research), *A Place to Be* innovates the notion of place-based research by documenting (just a fraction of) the varied historic and contemporary black cultural experiences, productions and impacts on the city.<sup>26</sup>

Urban issues that formed the basis of the place research included: poverty, affordable housing, access to food, economic opportunities, environmental justice, access to transportation, neighborhood formation, access to institutions, education, complete streets, displacement, right to return, urban agriculture, etc. While grounded in primary data collection (archival, demographic, statistical, interviews, and community outreach) and supported by secondary source reading, the outputs were not in the form of traditional papers and reports, but rather in visualisations and social art practice as a way to make place-based research visible and relevant to the place issues faced by black residents.

An example of an engaged visualised research component included using the social media platform Instagram—and a corollary hashtags #blacksoulpdx and #blackpdx—to create an interactive mapping resource. Students started the research by using Instagram as a tool to geo-tag and hash-tag locations in real time. But the tool is democratic and participatory in that anyone and everyone can participate. Thus both residents and visitors to Portland became a part of the map production. What students and other people examining through mapping was Portland’s Black Identity within the urban context. The social media project started to pinpoint places in the urban environment directly connected to black culture, such as black owned businesses, gathering places which serve primarily black participants, and neighbourhoods where a significant number of black residents were/are

living.<sup>27</sup> For example, churches with black leadership and predominantly black congregations, restaurants with black ownership, and establishments such as barber or beauty shops where the primary clientele are black, are mapped as places supporting and representing black identity. When students or any user snaps a picture, posts it on Instagram, geo-tags it to the place photographed, and hashtags it with #blacksouldpdx and #blackpdx what is being produced is a map of black culture and resources in Portland intended to generate a greater conversation about the black experience in this city. The mapping (as with all facets of the *A Place To Be* project) is not intended to provide any definite answers or prescriptive solutions, but aims to raise questions and start conversations around how and where black people feel strong senses of place and identity in Portland. This questions include:

- Do people currently feel connected or disconnected to these places we have pinpointed?
- How have these connections changed over time?
- What other places represent black identity?
- Are there major place types, such as parks, schools, etc., that should also be considered?
- Are new black churches, community centres, or establishments popping up in the areas people have moved to due as a result of gentrification, or are people forced to commute back and forth to the resources they once had nearby?

Making visible both the historical and contemporary experiences and productions of black residents in Portland, research outputs include infographic visualisation posters and short films revealing institutionalised displacement, gentrification, marginalisation and dispersal of black residents. The initial investigations developed into research-based design documenting potential sites, programs, and visions for a defined *A Place to Be* as a way of prompting conversations with and within the black community of needs, wants, and desires to ameliorate their loss of place. This research-based design was done through interviews and workshops with a variety of black community organisations, leaders, and artists.<sup>28</sup>

### The Pop Up Porch

*[...] the politics of Black Style [...] is a politics that refers to spatial praxes and resistance. This is the*

*manner in which blacks occupy and move through space, negotiate spatial relationships, and create alternative spaces for creative expression and daily affirmation of life in American society.*”—Mario Gooden<sup>29</sup>

*“Often the rural black folks who lived in shacks on the edges and margins of town conceptualized the yard as a continuation of living space. Careful attention might be given to the planting of flowers, the positioning of a porch or a rope-hung swing. In the recent autobiography of the more-than-a-hundred-year-old Delaney sisters, they describe their migration north, their purchase of a small house, and the amazement of white folks that they wanted to add on a porch. Reading this, I recalled overhearing the conversations between my father and his dad as they sat on the porch and shared thoughts, ideas, dreams. Often, exploited or oppressed groups of people who are compelled by economic circumstance to share small living quarters with many others view the world right outside their housing structure as liminal space where they can stretch the limits of desire and the imagination.”* bell hooks<sup>30</sup>

In addition to design envisioning, social media and 2D visualisation projects, performative research was initiated with the *Pop Up Porch*, a temporary structure meant to catalyse this research-based discussion and make it public. The methodological philosophy promoted—“We will provide the porch. You will talk. We will listen. A Conversation Experiment to discuss creating a space in Portland where Black Art and Culture is created, taught, discussed, celebrated and witnessed”<sup>31</sup>—was critical to innovating research within a culture of oral traditions.

The Porch is meant to catalyse this discussion and to witness how Black Arts and Culture matters to Portland. In doing so, the Porch as a temporary installation aimed to call attention to the need for a permanent, public centre to celebrate African American and Black arts in Portland. The intent was to start a discussion on the Porch that will continue and hopefully result in a permanent facility.

Why provide a porch? Historically the porch has figured prominently in African American heritage for centuries in the United States as a place for family, friends, gathering, storytelling, cooking, sewing, singing, music, and conversations both important and mundane. Expressing plans and dreams would all happen on the porch as the only historically accessible public space for African-Americans.

The porch is painted haint blue because the first painted strokes of the color were in the simple shacks of African slaves. Haints are spirits trapped between the world of the living and the dead, who are unable to cross over water. The slaves had an elegant solution. They created the haint blue paint to look like water so the spirits would become confused and tricked into thinking they could not enter. The slaves used this color to paint their porches and other openings in their homes. The now ubiquitous tradition of painting porch ceilings haint blue continues today and demonstrates how African heritage is a part of American culture.

For a month, the Porch occupied a park on the corner of SW 12th Avenue and Market Street, providing a public place for all manner of creative works and discussions celebrating and originating in Portland’s Black community. The goal was to create a focused space for Portland’s Black Arts to be viewed, experienced, cherished, and discussed in the public sphere, in order to highlight the need for a permanent Black Arts and Cultural Center.

### Reflections on the Process

Community-based projects involved two constituencies that often have different objectives and expectations: the academy and the community. *A Place To Be* was no different in confronting these tensions.

From the point of view of the academy, critical assessment necessarily includes discussion of the pedagogy, research-based and practice-based learning methods. Managing students’ expectation and skill sets were difficult. Students’ do not come to the classroom with sophisticated research method skills; particularly when using alternative methods like interviews and oral histories. Many students also do not come into the architectural classroom with experience in dealing with other cultures and/or are sensitive to issues experienced by residents living in disinvested neighborhoods. Architecture students are mostly trained to be experts; in other words they are good at talking at people and at defensively justifying their positions. They have to learn “on the job” in situations like this to be listeners, to treat residents as experts based on their life experiences. That learning curve can be hard not only on the students but also on the residents with which one engages.

In this particular project, which involved permitting and design-build, students also had to engage in the



professional processes that architectural school often shields them from (like budgets, justifications for designs, proof of structural soundness, and materiality justifications in terms of construction issues). Students can become frustrated when their paper/digital designs are required to become realities and therefore must incur changes. These are necessary and valuable experiences for students; but it can be challenging to communicate the important lessons they are learning beyond their frustrations.

Finally, because projects like A Place To Be are complicated and have a time horizon beyond the 10-week term (Portland State University is on the quarter system), this project not only involved teamwork within any given term; it also involved the handing off of research, ideas and envisioning between groups of students over several terms. Some students are flexible enough to thrive in adding their contributions; but others, inculcated by an architectural educational system that emphasises individual genius, can flounder in not “owning” an idea or concept that was generated by someone from a previous term. Communicating a pedagogy where the designing of a detail or connection from a larger concept inherited from previous students becomes critical.

When turning to community relationships, time can again be a critical factor offering frustrations for residents. The alignment between residents’ ability to contribute (or when their energy and desire is at the highest) may not coincide with the pressures of the academic term. While this may be communicated early on to partners, the issue of time management and involvement needs constantly shepherding as the reality of those early cautions sets in. Like students, residents are also not always familiar with the time it takes for developing drawing sets, permitting, and other municipality interactions and permissions. They can become frustrated and bewildered by all of the perceived roadblocks set by the city. In the case of *A Place to Be* this can be compounded by a constituency who historically and today experience institutionalised racism. Thus the “road blocks” typically experienced by built environment professionals can appear to be based on continued racism on their part. And quite frankly in some cases this is true. Finally, when working with the black community in U.S. cities there can be set-backs in terms of the time residents are able to devote to the project. This is because the populations have been

decimated and dispersed via gentrification; therefore the ability to come together over critical issues has been compromised. In addition, there are so many urban issues faced by the black community (poverty, policing issues, affordable housing, education, access to food, etc.) that community leaders and residents can feel pulled in many directions and not have the bandwidth to continue to contribute to all issues. And like any subcultural group, the black community in the U.S. is diverse in its experiences, values, and needs and therefore has its own internal divisions that can pit leaders against each other as they “fight” for which project should receive preference not only from the top (the powers that be) but also from the bottom (resident/community buy in). Thus, a significant challenge to the project was building consensus among leaders in the black community.

Nonetheless, while experiencing both successes and failures, this research did achieve its broader aim to make the Black heritage of American culture visible and provide alternative methods for those left out of place design and development decisions to reassert their presence and agency.

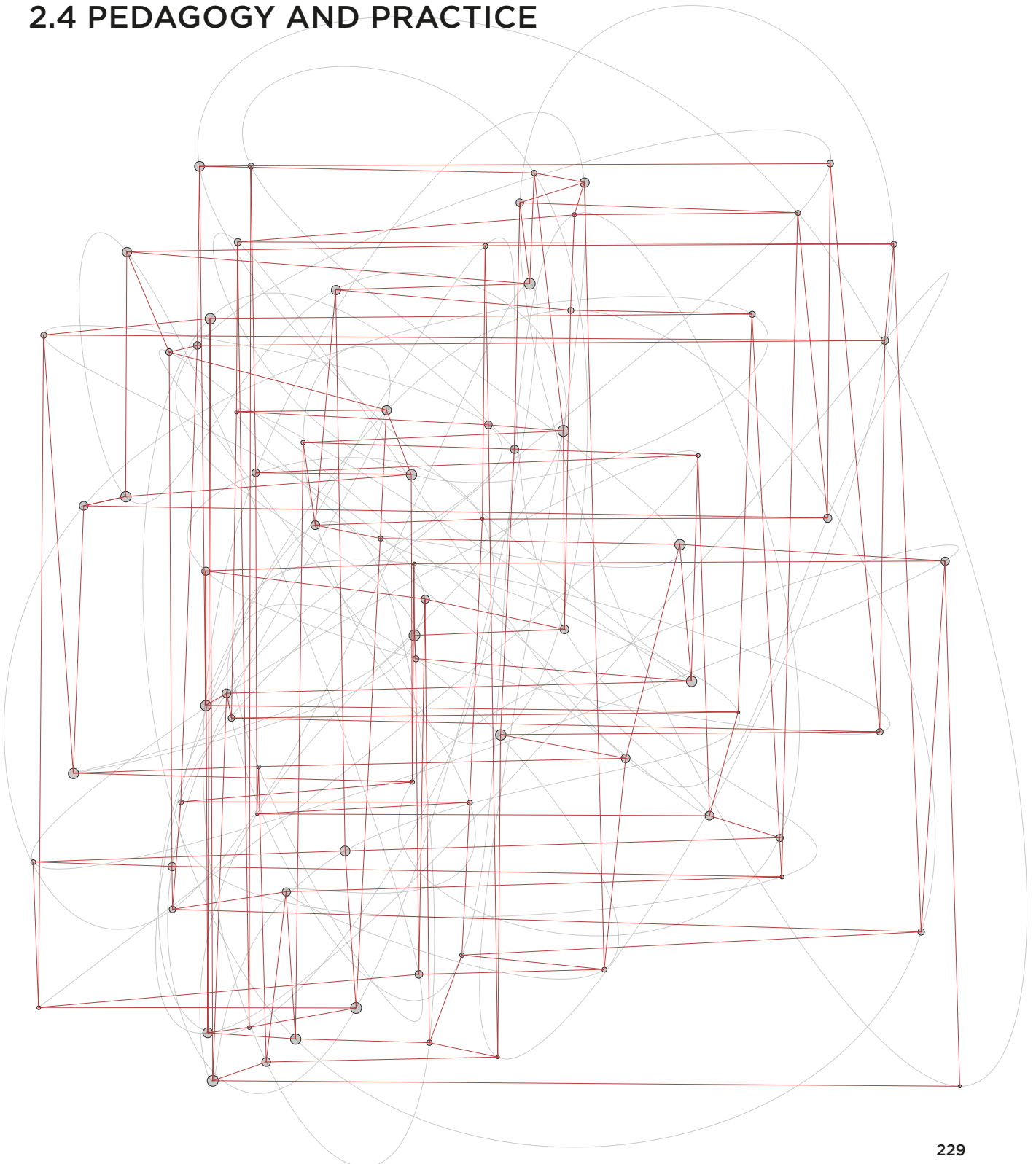
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- 25 Oregonian/OregonLive, C. P. (2015, December 04). *As Alberta Street gentrifies, neighborhood leaders strive for minority involvement*. Retrieved August 04, 2017, from [http://www.oregonlive.com/portland/index.ssf/2015/12/alberta\\_street\\_equity.html#incart\\_related\\_storie](http://www.oregonlive.com/portland/index.ssf/2015/12/alberta_street_equity.html#incart_related_storie)
- 26 *It should be stressed that these experiences and productions are plural and that no one historical or contemporary black person represents the urbanism of the whole. That being said, students were strongly encouraged to be specific in focus for each film in order to avoid generalizations.*
- 27 The urban issue this project addresses is that of Black Identity in Portland, Oregon. In the disciplines of psychology, sociology, and anthropology, "identity" is defined as the conception, qualities, beliefs, and expressions that make a person (self-identity) or group (national or cultural identity) different from others. The group and cultural identity which we are labeling as "Black Identity" refers simply to all people living in Portland who identify as black. We have actively chosen to use the word "black," rather than "African American" for several reasons. First of all, "black" is the more common term people within the community itself use when referring to themselves and others within this group. Second, the term "African American" may exclude numerous groups which still identify as "black," such as recent immigrants from outside of the United States who are not American citizens.
- 28 The *A Place to Be* website is documenting (just a fraction of) the varied historic and contemporary Black cultural experiences, productions and impacts on the city of Portland. On this website you will find a few examples in the form of films and visualizations that are meant to prompt a larger discussion of the even more diverse cultural productions and experiences by Black Portlanders occurring in the past, present, and future.
- 29 Gooden, p 14
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- 31 These words were written by Renee Mitchell early in the process.

## 2.4 PEDAGOGY AND PRACTICE



# Bauhaus Students' Proposal to Solve a Social Problem. A Study on the Diploma Project 'Collective Farm Vogelgesang Elbe' (1930).

HIDEO TOMITA

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## ABSTRACT

Though the architecture students of Bauhaus designed several projects in society, their details remain unknown. A Bauhaus diploma project 'Collective Farm Vogelgesang Elbe' (1930) by Konrad Püschel and Leo Wassermann was the only example that recorded the design process. Therefore, this study focuses on this project that the Bauhaus students designed to improve the life of young farmers through collective farming. This study reveals the following points. First, Püschel worked on this project during his eighth and ninth semesters. He had already begun to design a small pigsty in September 1929 at the request of his brother who lived and worked on this farm. Based on the experience and knowledge in practical training at the construction site in the seventh semester, he completed this project. Second, Püschel researched the functional demand and the required building space for those functions, and finalised the mutual relationship between each building and space, employing the method taught during the architectural theory course at Bauhaus. This study revealed that Püschel designed a working model for society and completed his diploma project by conducting detailed research on the farming community. Hannes Meyer's architectural education at the Bauhaus, which deeply influenced society, was considered unique for that time and place.

**KEYWORDS** Bauhaus, Hannes Meyer, Student, Diploma Project, Social Problem

## 1. Introduction

### 1.1 Research Background

Although the influence of the Bauhaus (1919–33) on the twentieth century society is renowned, little is known about how students designed their projects in real society at that time.

Walter Gropius, the founder and first director of the Bauhaus (1919–27), proposed the new executive ideology of the Bauhaus: 'Art and Technique – a new Unity' that aimed at intensifying cooperation

with industry in 1923. Moreover, Gropius founded BAUHAUS GmbH in 1925 to sell the Bauhaus productions. The students formed KURI group, a voluntary architectural learning group, and designed architectural proposals without premise of realisation, because there was no architecture department in the Bauhaus before 1927. In 1927, Hannes Meyer (1889–1954) was invited as the head of the newly established architecture department. In 1928, Meyer became the second director of the Bauhaus (1928–30). He had criticised the pure artistic trends of the Bauhaus before

1928 and so opened the school to society, accepting contracts to design architecture, furniture, and advertisements. The Bauhaus under Meyer obtained overwhelming social and economic success compared to the Gropius era, as Meyer himself wrote in 1930. The Bauhaus under Meyer strengthened the connection to society, so architecture students could also have the opportunity to design their projects in real society.

Though the architecture students of Bauhaus designed several projects in society at that time, their details remain unknown, because few texts explain their drawings. Therefore, architectural historian Winfried Nerdinger gave a negative evaluation of such students' works in the Meyer era.<sup>1</sup> A Bauhaus diploma project, 'Collective Farm Vogelgesang Elbe' (1930, Fig. 1) in Saxony, a state of Germany, by Konrad Püschel and Leo Wassermann was the only example that recorded the design process. Droste (1993) and Winkler (2003) analysed representative projects by architecture students. However, they only explained the outline of Püschel's project.<sup>2</sup>

### 1.2 Aim, Method, and Material of this study

Therefore, this study focuses on the 'Collective Farm Vogelgesang Elbe' project that the Bauhaus students designed to improve the life of young farmers through collective farming. In particular, this study reveals Meyer's architectural education at the Bauhaus, which was deeply related to society, in the case of Konrad Püschel. Regarding research methodology, in Section Two, we describe Püschel's architectural studies at the Bauhaus as a basic methodology of his diploma project in the context of Meyer's architectural education. In Section Three, we describe Püschel's design process of the 'Collective Farm Vogelgesang Elbe' from the viewpoint of its relationship to society.

Here, we have to mention Püschel's collaborator on the 'Collective Farm Vogelgesang Elbe' project, Leo Wassermann. Wassermann, who had acquired agricultural knowledge from his experiences as a farmer, specified the agricultural technology required for this project.<sup>3</sup> In this thesis, we regard Püschel as the practical designer of the project. Of particular interest in this regard are the correspondence, documents, and drawings produced by Püschel, which are housed at the Bauhaus Dessau Foundation. These historical materials have never been used in previous research about architectural education in the Bauhaus, such as by Droste and Winkler.

## 2. Relationship to Society in Püschel's Architectural Works before his Diploma Project at the Bauhaus

### 2.1 Püschel's Architectural Works in his architectural theory course.

In Section Two, we described Püschel's architectural studies at the Bauhaus as a basic form of knowledge and methodology for his diploma project, especially its relationship to society. Püschel took a preliminary course in his first semester at the Bauhaus, from November 1926, and a carpentry workshop in second semester.<sup>4</sup>

Then, from the third to fifth semesters, he took an architecture theory course, where he acquired basic architectural knowledge about theories of design and building structure. Püschel took the followings lectures: in his third semester (first semester at architectural theory course), he took 'study of floor plan' and 'light and sun calculation' by architect Hans Wittwer (1894–1952) and theory of statics, reinforced concrete, and steel construction by Dr. Friedrich Köhn. In the fourth semester (second semester at architectural theory course), he took 'study of building and floor plan' by Meyer, 'light and sun calculation, heating, ventilation, and installation' by Wittwer, and 'theory of building materials' by Wilhelm Müller. In the fifth semester (third semester at architectural theory course), he took 'analytic building, floor plan, and building plan' by Meyer and 'theory of building construction' and 'mathematics' by building engineer Alcar Rudelt. Thus, Püschel and other students studied the theories of architectural design and construction in general in three steps (in three semesters).

Philip Tolziner (1906–96), who studied architecture at the Bauhaus from 1927 to 1930, explained particularly Meyer's lectures and student works in these three categories (Kategorien).<sup>5</sup> Here, Tolziner's 'categories' correspond to 'semesters,' because he described Meyer's lectures 'in accordance with the participation level of teachers and students during the production of the work (theme selection, data collection, analysis, sketch creation)'.<sup>6</sup> According to Tolziner, in the first semester at the architectural theory course, Meyer conducted 'all tasks from theme selection to sketch creation'. The student then 'reproduced the sketches and texts'. Meyer picked up on the case of a farming family's house in Mentone, Italy. In the drawings for this project, the timetable

of residents, social structure, and circulation were analysed.

In the second semester at the architectural theory course, students expanded their discretion in their design works. Meyer performed the theme selection and a portion of the data collection, and the student performed part of the data collection, the analysis, and sketch creation. Student works of this semester included Siegfried Giesenschlag's 'Relationship within the Housing Complex to the Neighborhood and External World' (1929). Meyer probably picked up on the one-story type settlement project (1929–30) in Dessau-Tölten, which the architecture department of Bauhaus contracted from Dessau City. In the drawings of this project, the timetable of residents and the situation of sound and smell in the neighbourhood were analysed.

In the third semester in the architectural theory course, Meyer selected the overall theme. The students selected individual themes and performed all subsequent tasks. Student works in this category included Edmund Colleijn's 'Study on the Periodicity of Living Spaces' (1928) and Rene Mensch's 'A Profile of the Life of the Helmsman of a Cargo Loading Ship; Family Diagram of a Helmsman' (1929). In these student works, the timetable of residents and social structure were analysed.

Thus, analyses of timetable, social structure, and circulation were similarly seen in student works in the architectural theory course. It was clear that Meyer consistently asked architectural students to design projects based on actual social conditions in his lectures at the architectural theory course. Püschel seems to have acquired Meyer's basic methodology of architectural design through the architectural theory course.

## 2.2 Practical Training in Architectural Design

Püschel belonged to the architecture department (*Bauabteilung*) from 25 March 1929, and acquired practical knowledge in architectural design while training at the construction site of the ADGB (*Allgemeiner Deutscher Gewerkschaftsbund*) federal school (1928–30) in Bernau near Berlin, designed by Meyer. The practical training was done in his seventh semester, from 4 April to 20 August 1929. He undertook various types of tasks as an assistant to the local construction manager, Arie Sharon (1900–84),

a graduate of the Bauhaus. Sharon belonged to Meyer's architectural office and practically controlled the construction of this building, because Meyer was very busy in dealing with many difficulties of the Bauhaus as the director at that time.<sup>7</sup>

In September 1929, after the practical training, he began to design a small pigsty (Fig. 1) at the request of his brother, Georg Püschel, who lived and worked on a farm on Vogelgesang estate in Elsnig, Saxony.<sup>8</sup> Later, with this whole farm as a theme, Püschel worked on his diploma project. Based on experience and knowledge gained at the construction site of the ADGB federal school, he completed the pigsty's execution plan drawings and submitted the building application.<sup>9</sup> We cannot confirm whether this pigsty was actually built or not. However, the hut currently built on the site is on the same scale and in exactly the same position as Püschel's design.

Thus, architecture students were engaged in drawing execution plans and supervising the construction site as architects. In the Bauhaus, architecture students could contract private architectural design works, as well as the official works of the architecture department. In fact, Dessau City paid expanded liability insurance for private/official activity by architecture students as architects, because the school was a city university.<sup>10</sup> For example, in 1928, eleven students were expected to be engaged in practical work as architects.<sup>11</sup>

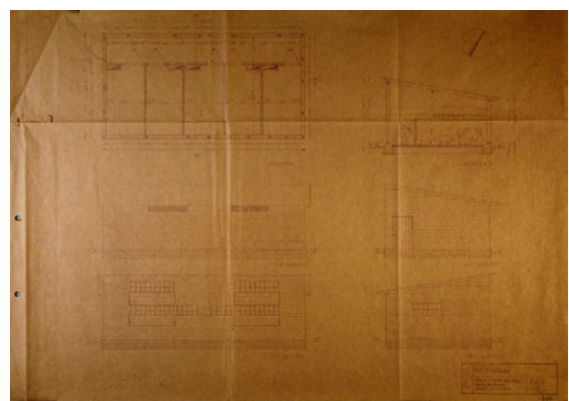


Figure 1. Reconstruction of Small Pigsty in Vogelgesang, Floor plan, Elevation, and Section (1930, Konrad Püschel) Dessau Bauhaus Foundation, I7542D, 258



### 3. Diploma Project

In the eighth semester, from October 1929, and ninth semester, Püschel worked on his diploma project, the 'Collective Farm Vogelgesang Elbe', with his collaborator Leo Wasserman. Through the project, they received the Bauhaus diploma on 15 October 1930. In the diploma project, Püschel intended to transform the existing Vogelgesang estate into a collective farm. Püschel planned to improve the plight of young farmers, who were burdened with debt after purchasing buildings, livestock, machinery, and fertilizers, through a collective farm system wherein these obligations were shared.<sup>12</sup>

In fact, Püschel was not solely devoted to his graduate design in the eighth and ninth semesters. Like other students, he was also involved in some projects that the architecture department commissioned. His main project as the architect of the architecture department was the redesign of the main square of Dessau's 'Small Market' (1929–30). Püschel redesigned the 'Small Market' complex of bus and streetcar stops and kiosks by himself.<sup>13</sup> Together with other students, Püschel also worked on 'Studies on the general development planning of the city of Dessau' (1930).<sup>14</sup> Both of these projects were handed over to the Bauhaus students under the third director, Ludwig Mies van der Rohe (1886–1969), after Meyer's resignation in the summer of 1930. This fact shows how the Bauhaus of the Dessau era connected with the local society and students led the plan to solve social problems.

#### 3.1 The research about original condition for design

In May 1930, Püschel researched the functional demand and the required building space for those functions, and finalised the mutual relationship between each building and space on the farm (Figs. 2 and 3), employing the method taught during the architectural theory course at Bauhaus. In Figure 2, Püschel sketched an administrative schema (*Verwaltungsschema*). Under the title of 'cooperative', each building (administration, workshops, agricultural economy, livestock farming, gardening, and non-profit facilities) form a mutual relationship. In the sketch 'Community' (21 May 1930, Konrad Püschel, Dessau Bauhaus Foundation, I7542D, 288), Püschel sketched the schema of community (*Lebensgemeinschaft*). Also under the title of 'cooperative', the dining hall connects shops, a children's playground,

apartments, and workplace (kitchen, workshop, nursery, administration, etc.). He noted that under the community, 'at least once a day, all the members of the cooperative are gathered in one place'. In Figure 3, Püschel sketched the relationship of each building (cereal and straw, grains, feed, dairy, stables, equipment, nursery, apartments, dung, and non-profit organisations) with red and green lines.

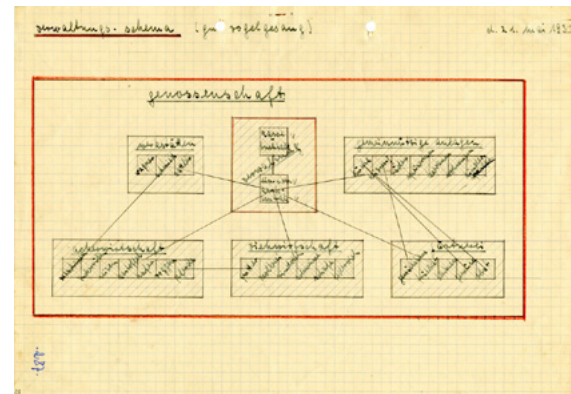


Figure 2. Administrative schema (21 May 1930, Konrad Püschel) Dessau Bauhaus Foundation, I7542D, 287

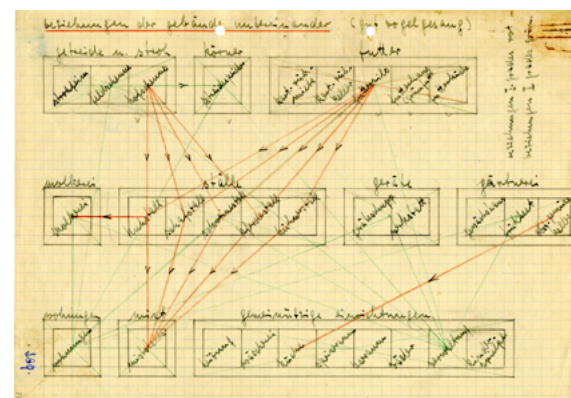


Figure 3. Relationship of each building (Undated, Konrad Püschel) Dessau Bauhaus Foundation, I7542D, 289

We can understand that Püschel organised cooperative architecture, through making the functional relationship of each building clear. Püschel then grasped the required uses and floor spaces by the request letters on 25 and 26 May 1930.<sup>15</sup> He completed the list of necessary spaces in each building on 18 July.<sup>16</sup>

He made a detailed list including smaller rooms smaller than one square metre, especially about the pigsty, cowshed, sheepfold, and stable. On 19 July,

he completed a resident and temporary staffing list for each building (department).<sup>17</sup> There were 32 people in the agricultural economy department, six people in livestock farming, one person in gardening, three people in workshops, four people in non-profit facilities, and two people in administration, for a total of 48 people, with 20 people with a family and 24 singles (seasonal workers). Based on these survey results, Püschel began to sketch the architectural layout (*Dessau Bauhaus Foundation, I7542D, 285*).

This unique design process was quite similar to Hannes Meyer's. Meyer explained his analyses and design methodology in his 1933 essay 'How I Work' ('Wie ich arbeite').<sup>18</sup> Meyer begins his design to show 'diagrammatic representation of the building program in which spaces of a similar kind are grouped together and the analytic features indicated'. He then shifts to a 'diagrammatic plan of the entire building program on a uniform scale showing the organisation and the most appropriate grouping of spaces and the connections between them'. Here, we can see Meyer's influence on his students on how to proceed with architectural design and ways of thinking to solve social problems, while their architectural form differed.

### 3.2 Final design

The final design of Collective Farm Vogelgesang Elbe is composed of four sheets of drawings.<sup>19</sup> The first sheet consists of diagrams and a site plan (Fig. 4). The second sheet consists of floor plans and elevations. The third sheet consists of floor plans and sections. The fourth sheet is a perspective (Fig. 5). In the first sheet, the diagram, at the top of Figure Four, shows the changing process of the firm. The right side is the former estate of Vogelgesang among one proprietor. Centre shows today's estate distributed to twelve owners. The left side shows a cooperative situation. The organisation chart of the building is shown on the lower left of Figure Four. Although the contents are the same as Figure two, this chart is expressed in a clear hierarchical structure. In elevations and perspective drawing, we can recognise that the roofs are mainly pitched roofs; only apartment buildings have flat roofs. In general, few elements are recognised that are particularly affected by Meyer. As mentioned in Section Two, Püschel seems to be affected by Meyer in his design methodology rather than architectural form.

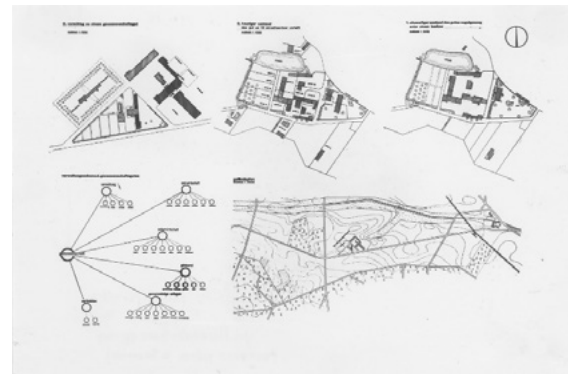


Figure 4. Collective Farm Vogelgesang Elbe, sheet 1 (1930, Konrad Püschel and Leo Wassermann) Bauhaus Archive, Tolziner, Philipp (1906-96), III-2-5

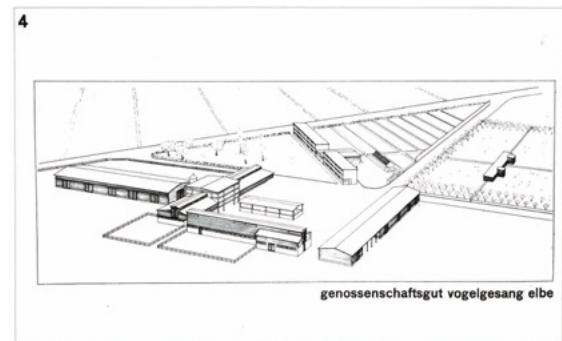


Figure 5. Perspective drawing, sheet 4 (1930, Konrad Püschel and Leo Wassermann) Bauhaus Archive, Tolziner, Philipp (1906-96), III-2-5-2

## 4. Conclusion: Evaluation of Architectural Education in real society

### 4.1 Evaluation from the Perspective of Hannes Meyer's Architectural Education

As mentioned above, Meyer's architectural education in the Bauhaus attached great importance to involvement in society. A Bauhaus graduate, Püschel studied architecture through the ideal curriculum by Meyer: three semesters in architectural theory course and three semesters at the architecture department, including practical training at the construction site of Meyer's ADGB school. Moreover, Püschel's diploma project is the only diploma work that can confirm the material of the design process. Based on this material, this study revealed that Püschel designed a working model for society and completed his diploma project by conducting detailed research on the farming community.

In general, architecture students in Meyer's era tended to use Meyer's architectural vocabulary as it was: staggered form in section, a staircase projecting to the outside, and so on. Arie Sharon, as we have already mentioned in Section Two, was the representative person who expressed the influence of Meyer in architectural form. On the other hand, Püschel, as mentioned in Section Three, was less influenced by Meyer on the morphological aspect. However, through confirming the materials of the design process, this study revealed that Püschel's diploma work was more influenced by Meyer's design methodology. This feature can be pointed out in only Püschel's diploma work where materials of the design process remain.

#### 4.2 Evaluation from the Perspective of Bauhaus's Architectural Education System

Although Meyer criticised the Bauhaus of the Gropius era as an aestheticist, the basic long-term orientation of the Bauhaus had from the very beginning been toward social change by art. It reflected the social background of Weimar Germany at the time of the establishment of the Bauhaus in 1919: the revolution and the defeat in World War I. The first director, Gropius, decided to connect art to technology under the slogan 'art and technology – a new unity' in 1923.

Simultaneously, the Bauhaus designed the experimental house 'Haus am Horn', one of the key projects of the Bauhaus exhibition in 1923. At that time, there was no official architecture department, so Gropius's private office normally took charge of architectural projects within the Bauhaus. Under such circumstances, the design of 'Haus Am Horn' was opened to persons other than Gropius, the Bauhaus master and painter Georg Muche performing the basic design and the furniture being handled by Marcel Breuer, a Bauhaus student. At that time, Gropius and the Bauhaus were conscious of completing a constructivist architectural aesthetic that fit into the new world, rather than being actively involved in social problems. Nevertheless, with the completion of an architecture that concentrated the work of all workshops, the Bauhaus ideal – 'The final goal of all artistic activities is architecture!' – came true. Thus, it was an extremely important event.

The Bauhaus relocated to Dessau in 1925 pursuing a new relationship with the industrial world. The Bauhaus was asked to design Dessau-Törten Housing

Estate (1926–28) and the municipal employment office (1928–29) at the request of Dessau City. Despite the architecture department being established at Bauhaus in 1927, these designs were drawn by the individual office of Gropius. At that time, Meyer, who was the chief of the architecture department in 1927, had only to look at the situation. Based on such experiences, after 1928, Meyer revised the curriculum of the Bauhaus, including the architecture department, and opened education and production at the university to society. In this way, Meyer's architectural education must be understood in the context of the relationship with society that Bauhaus had had since its establishment.

In previous studies, the achievement of the Bauhaus was recognised as being its outstanding educational outcomes in preliminary courses and works by masters and professors in various design fields.<sup>20</sup> However, little was known about the activities of students in the Bauhaus as architectural educational institutions, especially students' design activities in society, despite the fact that architecture was the ultimate goal in the Bauhaus. Püschel received architectural education at the Bauhaus under Meyer in an ideal curriculum and produced a diploma design under the influence of the design methodology of Meyer. Meyer's architectural education at the Bauhaus, which deeply influenced society, was considered unique for that time and place. In this way, Püschel's diploma project was an extension of the ultimate goal of the Bauhaus that aimed at social change through art and architecture, and proved that the goal of establishing the Bauhaus was achieved even by the hands of the students.

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# Teaching Practice. The London School of Architecture.

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## ABSTRACT

This paper looks at new pedagogical relationships between practice and academia reflected in the Masters Course of our London-based school of architecture. We reject the traditional binary opposition of academia versus practice to embrace intersectional learning and research. Embedded within the teaching model of the school is the conviction that there is a dynamic and critical conversation to be had between students, teachers and practitioners.

**KEYWORDS** education, practice, collaborative, ethical, political

## Strategic definition

“When it comes to architectural education in the UK, one thing everyone agrees on is that it’s not fit for purpose any more. Students go through seven years of training, five of which are spent in school, only to end up earning a paltry salary in relation to comparably trained professionals.”<sup>1</sup>

This paper has been designed to share and critically engage with the teaching and learning pedagogy of the new LSA (London School of Architecture). The question is whether an alternative educational model can successfully devise a validated curriculum that is able to embed the profession deeply within the programme while maintaining a critical distance from the nature of commercial practice. Too often the gulf between what is taught in schools of architecture and how practice operates is alluded to from both sides with little intention of addressing the gap.

Our manifesto identifies five behavioural prime values: propositional, relevant, innovative, metropolitan and entrepreneurial. Embedded within

the teaching model of the school is the conviction that there is a dynamic and critical conversation to be had between students, teachers and practitioners. We therefore challenge the traditional binary opposites of academia versus practice. However the LSA is not alone in redefining the parameters of architectural education. While programmes at Bath and Cardiff have long pioneered sandwich courses, there is a progressive integrated work place learning course at Sheffield. In Lyon architect Odile Decq set up her Confluence school, which is described as a site of emerging new relations between systems of thought and modes of construction, reflecting:

“The Confluence challenges students to become pioneers in confronting problems encountered in the world and to use new tools to address them.”<sup>2</sup>

We also suggest it is necessary to see ways in which the production of architecture is an essentially political act and to challenge what Naomi Klein refers to as the triple crises of neoliberalism, economic inequality and climate change.<sup>3</sup>



## Brief

In order to frame the discussion a short history of the development of the school is useful. Founder Will Hunter, then the deputy editor of the *Architectural Review*, published an article in 2012 proposing ARFA—*Alternative Routes For Architecture*—in order to challenge conventional models for architectural education and asking professionals and academics to offer their thoughts. As Hunter questioned:

“Are architecture schools housed within the state-controlled university system really the best place to create the next generation of architects?”<sup>4</sup>

This generated a debate swiftly leading to the pro-active notion that the most effective response was to create what Jos Boys refers to as a grassroots new school.<sup>5</sup> In addition the brief called for a reduction in student fees and therefore a different model of funding. The outcome was to partner with practice in a two-way conversation whereby a student would be employed by practice three days a week and the practice would become involved in the programme of the school. The equation showed that students could earn £12,000 on base rate salary, working part time for one year which would offset the fees for the entire two year course.

Clearly the ‘learn as you earn’ paradigm crosses over with the standard student year out, but demands a new kind of relationship between the practice, the student and the school. This is fundamental to the forward looking re-casting of the entrenched hierarchy as a one-way street, instead initiating a pivotal dialogue rooted in projects, research and writing.

## Design

As the agenda of the school took shape we forged a working relationship with London Metropolitan University (LMU) who became our Partner Institution. During the initial QAA stage we held a number of peer led reviews, testing the idea of the course and resulting in a series of critical commentaries and advice. Once validation from the University was received, we sought to gain accreditation from ARB and RIBA. Interestingly a number of commentators questioned why a new school wished to follow such an established pattern. However this is to forget that validation is for the students and their future career rather than as a badge for the school.

At the heart of the course lies a fundamental belief that learning through critical practice creates

a research-led agenda that begins to challenge the education of the architect, creating a space for the network of practices to reflect and develop. This is a very different premise to the model where part-time tutors (mostly in work) come into the school to teach, as a way of furthering an agenda often not pursued in their everyday career. They buy into the often esoteric values of the school as a means of escape, and to further an alternative conversation borne out of frustration with the ‘real world’. Here we invite practicing architects both to share their knowledge and experience as well as to be propositional.

The LSA put out an open call to practices inviting them to become part of their network, explaining that there were three key ways of being involved. The first becoming an employer of a student, the second as a participator in the group ‘think tank’ projects and thirdly as a design tutor in second year.

“The LSA is creating a series of new relationships—between students and tutors, between academia and practice, between the discipline of architecture and others, and between the institution and the city—with the purpose of defining a new critical practice for architecture.”<sup>6</sup>

## Construction

The course aims to foster new ways of working through collaboration and group work, analogous to what Carlo Ratti terms a choral profession.<sup>7</sup> At its most basic this is because most architects work in teams and with other people; they are not a lone genius. It should be noted that while LMU were supportive of this initiative, it became clear that the marking of group work in higher education is not generally supported which perhaps goes some way in explain why architecture programmes favour the individual, both literally and societally.

Although the actual work students undertake in their three days employment is no business of the school, by creating a space between practicing and speculating within the programme there is the opportunity for the student to research and test their ideas, ideals and preconceptions in real time. They are placed in a ‘live’ situation where they are both practicing architect and scholar and potentially in a position where they can influence and calibrate both scenarios. To reinforce ties with the school ‘Think Tank’ design projects are run by practice leaders who

develop a thematic brief which is taken on by groups of five or six students over a period of fourteen weeks.

The first year begins with an Urban Studies programme and ends researching the brief for the second year Thesis Project, which is characterised as their 'Proto-Practice' year. Two courses under the banner of 'Critical Practice' titled *Placement and Theory* are where the student is asked to research, consider and propose ideas that relate to how architecture is practiced. The aim is to create a critical collision between speculation about architecture and speculating within architecture.

Underpinning our critical theory is the research of Leon Van Schaik who writes in *Mastering Architecture*, that research and peer review are vital to the growth and innovation of a practitioner, concluding:

"Designers who become creative innovators have all found a way to second-order learning: a process of observing themselves as learners and taking charge of the curation of themselves as learners".<sup>8</sup>

In order to tease out and engage with the practice network, the students are required to write a critical practice Manual reflecting their observations and participation. The LSA asks that each student be assigned a mentor within the practice who allows up to half an hour a week for the student to ask questions and access issues and protocol they may not be party to. We invite the students to consider the culture of the office in parallel with the managerial structures, design philosophy and attitude towards technology. This is supported by a series of group seminars that focus the students on finding a lens to view the practice, as well as sharing their experiences with the class. By way of an example one student working for a small all-women practice wrote her piece on 'Practicing Equality' while another placed at a large multinational practice explored 'Borderless Sustainable Globalism'. We also asked that students include a technical case study as a mechanism to explore the way material detailing and sustainable thinking operate in the commercial context.

Throughout the first year theory teaching is framed through questioning the nature of architectural practice and production taking on board Peter Buchanan's observation that theory tends to 'weave a web of obfuscatory verbiage spinning away from a subject while criticism is concerned with a penetrating engagement and discernment'.<sup>9</sup> Using the vehicle of a

personal manifesto the students are asked to consider their own agenda, their ethical position and to propose a way of thinking that equips them for their second year and beyond. As one student responded at the end of this year:

"The manifesto was crucial to me. This was the first time I could spend some time to sort many of my thoughts about architecture and try to position myself as an architect and really ask myself why I am doing what I do."

To illustrate the diversity of thinking, this year one student wrote 'Atlas Paddling'; a part fictional account of a flooded future world triangulated with descriptions of cities that today flood on a regular basis. Taking a more journalistic approach 'Fake News' explored the way in which architectural imagery projects a series of perfected scenarios devoid of real life contingencies. Both pieces push the boundary of architectural writing, in order to construct new perspectives on current practices and scenarios.

In the second semester the Design Think Tank project is perhaps the most radical aspect of the programme where half a dozen students and practices collaboratively produce design research. Here the groups are charged with looking at the spatial consequences of rapid expansion, climate change and data modelling in order to make informed propositions. Everyone is looking at current urban challenges and in particular those of London. Our students are agents for change, and believe that in order to be in a position to actively engage in the city, they need to use their time in education to understand and research the current condition. As George Monbiot reflects in 'How did we get into this mess?' it is ideas that determine whether human creativity works for society or against it.<sup>10</sup>

This year one group, under the umbrella title Global Currents, looks at the impact of poor air quality in London. Eighteen months ago this subject was hardly discussed, certainly not by architects. Through grass roots lobbying and recognition by the Mayor this is now seen as a pressing issue intertwined with transport, infrastructure and emissions. All students present their final group work to a public audience and it was encouraging that one group, SWARM, were subsequently invited to share their work at a keynote presentation at the annual BNA, the Royal Institute of Dutch Architects. Importantly too is the implication for the practices, and this year we saw a number of the

professional teams continuing their dialogues, and in one case working up a competition proposal together.

Moving into second year, the students consider the history of architecture as a history of design methodologies. Here the hegemony of modernism is destabilised, allowing the discussion to reach back in time to the classical tradition, the Beaux-Arts as well as the canon of C20th 'greats'. The student output is in the form of drawings, based on an architect or practice, as opposed to a written document. The work seeks to uncover the tools for excavating all the layers of significance in an architectural approach. It is forensic in its focus, and by asking students to draw, is another way in which the threads of architectural knowledge can be synthesised.

The rest of the year is spent developing two design projects, where the first shorter exercise is set up to allow students to test their own design methodology which is then critically reflected upon and refined for their thesis project. This is evolved alongside technical teaching inviting experimentation, speculation and testing of strategies for the use of materials, structures, form, inhabitation and sustainability. While a number of the students expressed regret that they were no longer working in groups, the school has taken the position that it is the contrast between different working modes that gives them the tools for their future practice.

### In use

Having run for only two years the project of the LSA has gained traction and momentum. The school received its ARB accreditation in 2017 and in June was validated by the RIBA who commended the school for offering a sense of empowerment and independence to students. In parallel the feedback from practices involved, such as PDP, is as important:

"It is the school's commitment to research and collaborative working methods that makes their educational model unique to other architecture schools and really sets them apart. Alongside their practice work and associated assignments, the students are also grouped together with practices from the LSA Practice Network to form 'Design Think Tanks' in order to explore a shared research question."<sup>11</sup>

Returning to the pioneering work undertaken by Leon Van Schaik, we believe the programme reflects his conviction that as "We move away from the notion

of the architect as the abstract entity 'architect' and move much more into architects as research question-driven practitioners."<sup>12</sup>

### Conclusion

The LSA confronts what some see as our corrosive value system that places profit above the well-being of people and the planet. Our vision, through architectural education, is to enable people living in cities to lead more fulfilled and sustainable lives.

We recognise that the school is finding its feet and the first cohort has been inspiring in their belief and engagement in shaping the school. Their feedback has been invaluable, resulting in changes to both the timetable and the content. Perhaps the most critical comments have centred on the dichotomy of teaching a more equitable vision for practice while expecting students to be super-human at times, balancing working to earn money with the intense pressure of producing a portfolio. However the final word goes to one of our recent graduates reflecting:

"The programme is interesting and progressive and I am glad I came here over anywhere else. When I compare my cohort to that of friends at other institutions I believe that we have the broader and more significant skill base and relevance to the profession and the changing world".

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# Architecture ≠ Building. Architecture without drawing lines.

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*Practitioner.*

## ABSTRACT

The architectural profession is changing and while a dose of nostalgia at a bygone age when the architect was perceived as a heroic master builder is understandable, it is time to look forward and examine the opportunities this transformation brings along. This paper looks at the alternative ways of practicing the architectural profession today in order to prove that the architectural field is not confined to the single notion of a building. It argues that some architects have already been pushing the boundaries of the profession and expanding its scope. The paper insists that the currently distorted perception of the notion of architect needs to be re-framed to encompass all new and old modes of operation of the profession.

The research focuses on operations that are not part of the traditional production of physical space, but have a direct or indirect impact on the built environment (e.g. policy-making, negotiation, real estate services, event organisation, curation, writing, coding and others). The paper is based on a collection of precedents and interviews with people who do not design buildings, but consider themselves Architects and believe they are enacting urban change in their own way. While not exhaustive about all possible forms of architectural operation, the paper provides suggestions about the different ways of doing architecture and aims to prove that the scope of the profession is far broader than it is currently perceived to be.

**KEYWORDS** architecture, profession, reframing, alternative, interviews

In order to establish the need for a recalibration of the architectural profession, this paper looks into its marginalisation by analysing two interrelated processes – first, the downgrading of the status of the architect and second, the ‘erosion’ of the role of the architect to other players in the construction industry. In this context, a historical overview of the function and prominence of the profession is essential in understanding its current decline.

The word ‘architect’ originates from the Greek words for ‘chief’ and ‘builder’. For centuries, architects were responsible for surveying, building and civil

engineering churches, palaces, villas and bridges. Builders, master masons, carpenters and wealthy amateurs all employed their architectural skills to build structures of various scale and value in times when the profession was not protected by an official body and architect was not a title.

It was in the eighteenth century when with the increasing specialisation within the building industry architects achieved professional status. In the UK, the foundation of the Institute of British Architects in 1834 (or Royal Institute of British Architects as it later became) signified an important development of the



architectural vocation<sup>1</sup>.

This professionalisation of architecture in the Eighteenth and Nineteenth century led to the reinforced prominence of the individual architect. Perceptions of the discipline shifted and the image of the 'heroic architect' emerged.<sup>2</sup> It involved a romantic idea of the architect as an independent artistic soul seen in isolation from an anonymous team of other architects or specialists. This ideology of individualism and heroism surrounded architecture for centuries and was reinforced by prominent figures such as Frank Lloyd Wright, Buckminster Fuller, Ludwig Mies van der Rohe, Le Corbusier, Oscar Niemeyer, to name a few. This distorted God-like image elevated the status not just of famed individuals but of the architectural guild as a whole.

The notion of the heroic architect is still alive today and is embodied by the so called starchitects - Rems, Normans and Bjarkes who have been successful in sustaining a status 'of glamorous, intellectual, artistic stars'<sup>3</sup> with their prevalence in media and comforting use of first names.<sup>4</sup> The image of an individual visionary architect has proven to be very marketable over the past decades and is likely to stay relevant in the future of the business of architecture. However, it has failed to enhance the perception of the architectural guild in general. If anything, starchitects have only strengthened an emerging notion of the profession as an arrogant, expensive, irrelevant and unneeded 'luxury'.<sup>5</sup> According to Rory Hyde, the public often sees architects as the ones 'only interested in formal novelty and fussy detailing, making everything expensive'.<sup>6</sup>

Even more alarming is people's misconception of the scope and nature of the architectural profession. A survey by YouGov shows that the British public has indeed very little idea of what architects do – results demonstrate that 15% of adults do not know that architects design buildings, 22% do not know that they prepare detailed construction drawings for building projects and 48% do not know that architects produce specifications to be used for building projects.<sup>7</sup> In a recent interview for *Monocle* Jane Duncan, former president of RIBA, has confirmed that 'a lot of the general public don't really know what architects do... They have no idea that [architects] deliver buildings, deal with planning and context, money, legislation builders and suppliers'.<sup>8</sup>

In addition to the widely misunderstood role of the profession and its downgraded status, the importance of architects has been negatively affected by an increased specialisation within the construction industry. An 'erosion' of the role of the master builder of the past to other players has led to the emergence a number of new occupations: engineer, quantity surveyor, building surveyor, contractor, project manager, planner, developer, site supervisor and many other consultants. The architectural profession has been broken down even further into interior architects, residential architects, commercial architects, retail architects, landscape architects and so on. This process of specialisation has put the position of the architect 'at the top of the food chain in determining the shape of the built environment [...] under relentless assault'<sup>9</sup> eventually resulting in his absolute authority being lost for good. Or as Dan Hill explains, when 'the whole world became more complex, architecture's seat at the table was crowded out, as one voice among many'.<sup>10</sup>

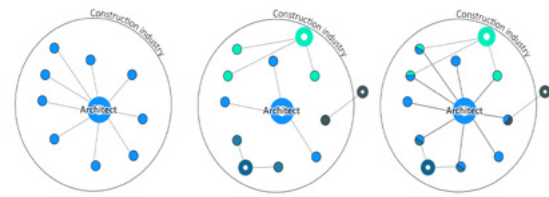


Figure 1. The changing role of the architect within the construction industry: past/ present/ future (author's own diagram)

Unfortunately, the described 'crisis of relevance'<sup>11</sup> has results far more critical than the bruised ego and dropping fees of the architectural guild. The diminished status of the profession has brought along an eroded perception of the field of architecture as a whole. According to Finn Williams, the view widely held in society today is that 'for most of the built environment, architecture is unnecessary'.<sup>12</sup> Similar opinion is expressed by *BD* columnist Amanda Baillieu who claims that 'in the real world of home improvements a local contractor is all you need, because architects are only for 'posh people'.<sup>13</sup> The public's 'concentration on the building as the primary locus of architectural production'<sup>14</sup> often means that the process, thought and knowledge behind architecture are overlooked, concepts are oversimplified and generated value is not perceived

beyond profit numbers. As architecture is reduced to a building, and buildings as a static product can be delivered without architects, it is not surprising that the profession is regarded to be relevant only for monumental projects and for the extravagances of the rich.

The main argument of this paper comes as a direct response to the context described above. The research aims to prove that the architectural field is not and should not be confined to the single notion of a building. It argues that some architects have already been pushing the boundaries of the profession and expanding its scope. The paper insists that the currently distorted perception of the notion of architect needs to be re-framed to encompass all new and old modes of operation of the profession.

Similar ideas about the 'required recalibration' and 'diversification' of architecture<sup>15</sup> have been explored before. This essay expands on the existing research of three major works. Firstly, RIBA's *The future for architects* report which covers the traditional route through the profession as well as some experimental fields of practice. Secondly, Nishat Awan, Tatjana Schneider and Jeremy Till's book *Spatial Agency* which investigates 'other ways of doing architecture'. Last but not least, Rory Hyde's *Future Practice* conversations, exploring the 'edges' of the profession.

The aforementioned works focus mostly on experimental architectural operations that still produce specific spatial outputs. This paper builds on them by exploring alternative practices that are not part of the traditional architectural production of physical space, but have a direct or indirect impact on the built environment.

To achieve its aims, the paper combines semi-structured interviews with relevant actors with an analysis of prominent precedents. This methodology proves to be the most adequate approach to collect data on the developing subject matter of architectural practice and has been employed by all aforementioned works. The argument is built on selected precedents of architects who work as politicians, policy-makers, negotiators, event-organisers, educators and more. The discussed experimental fields of practice are seen as being situated at the periphery of architecture. The conducted interviews reinforce the argument by providing a more personal perspective into the agency of architects who practice the profession without

designing buildings.

This is an on-going research and as such it does not try to be exhaustive about all possible forms of architectural operation. By providing suggestions about the different ways of doing architecture, the paper only tries to prove that the scope of the profession is far broader than it is currently perceived to be.

It is important to establish that the argument of this paper is relevant not only to professionals who want to operate in alternative ways, but also to the ones who practice in the traditional manner. Many architects currently 'fail to see, let alone analyse or capitalise upon'<sup>16</sup> all the professional opportunities in relation to the formal and informal aspects of urban life. An expanded public perception of architecture can broaden architects' scope within the construction industry by providing them with the opportunity to claim back some lost roles (Fig.1). An end to the obsession with the building as the sole static product of architecture also has the potential of allowing professionals to expand and capitalise on their traditional services.



Figure 2. Expanding the role of the architect to the wider design industry and beyond it (author's own diagram)

The expansion of the architectural profession can go beyond the construction industry and into the wider design industry. Considering the traditional architects' skillset, the design of any object from a shoe through a stage to a car can be regarded as 'an area of untapped spatial potential'<sup>17</sup>.

However, this paper focuses on the opportunities to broaden the scope of architecture beyond the design industry. The discussed precedents are organised into two groups: socio-political and socio-cultural practice. The first group encompasses architects who influence the built environment through political activity, strategic economic thinking, real estate services and regulatory engagement. The second group involves professionals who employ their architectural skills in

the spheres of social work, education, technology and communication.

The socio-political domain presents architects with significant opportunities to broaden the scope of the profession and elevate its prestige. Jaime Lerner is a particularly prominent and somewhat overused precedent of an architect working in the political sphere. As a mayor of Curitiba and governor of the state of Parana in Brazil he employed his architectural knowledge to positively transform the municipality of Curitiba. Through his urban knowledge and problem-solving skills he devised a new transport system and a new recycling strategy for the city. His political position allowed him to quickly and efficiently implement these to a great success. The precedent he set up has been copied by many cities since. Along with other architects, he established a tradition of significant engagement of architectural professionals in Brazil's political life.<sup>18</sup>

Currently, there is no such tradition in the UK. For many years Sir Sydney Chapman has been the only architect member of the House of Commons and Lord Rogers has been the one architectural representative in the upper chamber of the UK Parliament. A greater political engagement on the part of architects could not only provide that matters of design and planning are raised and heard at national political level, but also promote 'a return of civic pride' to the profession.<sup>19</sup>

Nowadays the built environment is largely dependent on private capital. Architects can re-establish their influence in this new context by broadening their scope and engaging with real estate or property investment. Maria Tsvetkova is an architect who is working for a real estate service provider. She is advising corporate clients on how to translate business objectives into actionable real estate schemes and be more strategic with their buildings or office space. She believes this is an important field for architects to operate in, as 'real estate investors are the ones that analyse supply and demand and ultimately decide where and what needs to be built or how buildings should be used'.<sup>20</sup> Maria's professional route is a good example of an architect who decided to cross the boundaries of the construction industry to pursue a career allowing her to think on a larger strategic scale about the built environment.

Another medium for architects to act on socio-political issues is by focusing on legislation and policy-

making. Santiago Cirugeda is a Spanish architect who prepares open-source user guides containing advice on how to apply to the local council to use an abandoned building temporarily or permanently. He uses his professional knowledge of the planning legislation in empowering others to enhance places of neglect. Thus, Mr Cirugeda has been a successful spatial agent influencing the urban environment without drawing plans or sections.

Economic policies and strategies are another important aspect of the socio-political sphere for architects to explore. In 2014, URBED, an urban design consultancy based in Manchester, won the Wolfson Economics Prize for their response to the question: 'How would you deliver a new garden city which is visionary, economically viable, and popular'. Their success was not based on proposing a beautiful design, but on suggesting a feasible economic approach that allows communities to capture and benefit from rising land values. In putting together their winning entry, the architects and planners from URBED applied their expertise in land acquisition and planning matters to devise a viable economic vision for cities. If implemented, their economic strategy can have considerable effects on the public realm in cities in the UK and beyond.

Engagement with economic policies or regulatory framework can be particularly successful when combined with traditional architectural design. French practice Lacaton & Vassal is celebrated for its dedication to 'creatively engage with the legal and regulatory aspects' of projects. As part of their work, Anne Lacaton and Jean Philippe Vassal negotiate exemptions from laws in order to provide better living conditions for people.<sup>21</sup>

Negotiation is a form of non-traditional architectural operation which spans across the socio-political and socio-cultural spheres of practice. It involves a meaningful mediation between authorities and communities. Such activity reverses the trend of architects being in the service of private capital and allows them to serve public capital once again. In this context it holds an enormous potential to positively transform public's perception of the architectural profession.

A number of practices and individuals in various locations have been working to unleash this potential. In order to survive during the recession Greek practice,

If\_Untitled began to organise small urban cultural events hoping that these would become the first step to actual building projects. This new activity turned out to be very successful and If\_Untitled started working on different urban initiatives that required mediation between local communities and the municipality. Through their knowledge of the economic and social processes in cities as well as their negotiation and communication skills, the practice empowered locals to reactivate dead zones in Athens. Thus, If\_Untitled had a positive influence on the urban environment without doing any traditional architectural design.

Muf is an architecture/art practice that has committed to public realm projects through negotiation and the production of strategic documents. In a recent interview they explain that they try to act as 'a double agent: observe not who is at the table but who is impacted by decisions; go and find them; listen to what they say; decide where value lies and how it can be shared'<sup>22</sup>.

Precedents suggest that negotiation commonly goes hand-in-hand with event organisation and community engagement. Ljubo Georgiev is the director of the biggest architecture festival in Bulgaria. Ten years ago, while working as an architect for a number of prominent firms, he curated several exhibitions and workshops. This hobby soon developed to become his main job. Today Ljubo is not undertaking design work anymore. Instead, he employs his architectural knowledge and network in organising and managing large-scale events. Through his dedicated activity, the city of Plovdiv is currently undergoing a revival. As a good communicator and negotiator, he succeeds in raising funds from the private and public sectors. As a good strategic thinker, he directs that money to the right architects and artists to develop their ideas in the city. Thus, he applies his architectural skills and knowledge in a job that does not include any design but has a considerable indirect effect on the urban environment of Plovdiv.<sup>23</sup>

In order to stay relevant in the socio-cultural domain, architects also need to actively engage with technological advancement. Kristian Goranov is an architectural graduate currently working as a BIM software developer. He reveals that while studying he found 'a lot more satisfaction in solving a problem than in finishing a drawing'. Therefore, after graduating he went on to do a Masters course in Software

Development. He admits that it is his proficiency in two different fields that allowed him to immediately find a job with an architectural software developer.<sup>24</sup> Kristian believes his work can have a 'tremendous' impact on architecture in the near future, as new software can enable professionals to work in a completely different way.

Morphocode also work at the intersection of design and technology. The studio consists of two architects who describe themselves as 'code ninjas'. By using both their architectural and technological intelligence, they have designed new software extensions and standalone apps to be used by architects as well as interactive infographics visualising urban data. While their work doesn't involve traditional architectural design, it has been influential for architects and Morphocode are currently giving lectures at a number of architectural institutions. The field of technology is developing at a fast pace and offers many new jobs for architects to explore in order to broaden the scope of their profession.

Finally, a crucial socio-cultural field for architects to consider is the one of communication. As established at the beginning of this paper, the public has very little idea of what architects do. There is real need for the profession to engage with the public and communicate the value it brings to society through its work. According to Amanda Baillieu 'there's a yawning vacancy for someone who can engage the public and communicate why architecture matters beyond buildings'.<sup>25</sup> The journalist suggests that this could be someone outside the profession but an individual effort would hardly achieve the desired shift in opinion.

Architects spend years in school and in practice learning how to clearly communicate their ideas through various media. Nevertheless, they fail to interact with the wider public. This inability could be explained not by their lack of communication skills but by their reluctance to reach out. Individual architects as well as the architectural guild as a whole need to address this issue and find ambition and means to communicate with the general public.

Jord den Hollander is an architect who struggled to get a job after graduating so he started writing for magazines. He soon found writing to be a good mode of expression and went on to study scriptwriting. In his professional practice he combined both disciplines by making films about architecture. Today he creates documentaries about architecture providing the public

with a new unusual perspective of the field. In 1990 he founded the Architecture and Film Festival Rotterdam (AFFR) which has now become the biggest festival of its kind in the world.

Writing is an important outlet for architectural thought. It allows architects to make spatial issues visible to the wider public. Interviews with three people in the field – James Taylor-Foster, editor-at-large for *ArchDaily*; Alexandra Lange, architecture critic for *Curbed* and an Opinion columnist at *Dezeen*; and Carter Wiseman, former architecture critic at *New York Magazine*, endorse the importance of written word in the field of architecture. All three interviewees expressed confidence in the profound direct and indirect influence of architectural criticism on the built environment.

According to Carter Wiseman, with the help of social media, architectural authors can more effectively than ever ‘scuttle bad projects while encouraging good ones’.<sup>26</sup> Even more importantly, writing architects can ‘create a climate of high standards among the people who decide what is built, and those who pay for it’.<sup>27</sup>

According to James Taylor-Foster, writing can become an important aspect of traditional architectural production in today’s fast-paced world. Buildings often take years to be realised and no matter how much technological innovations speed up that process, traditional architectural production will never be able to keep up with other forms of expression. This is partly where the significance of writing lies. Though writing (that is not to exclude other forms of visual communication) architectural ideas can be communicated very quickly. On the other hand, writing often survives much longer than buildings do, thus proving to be not only a faster outlet for architectural ideas but also a more resilient one.

The *ArchDaily* editor claims that online platforms are influencing the future of the built environment ‘at the highest level’.<sup>28</sup> He explains that when thousands of people read your articles daily, most of them being architects or students, the information you share will inevitably affect their design thoughts or processes that day. Taylor-Foster also believes that platforms like *ArchDaily* have the potential to ‘improve the quality of life for the next 3 billion people that will move into cities over the next 40 years by providing the inspiration, knowledge and tools to the architects who will have the chance to design for them’.<sup>29</sup>

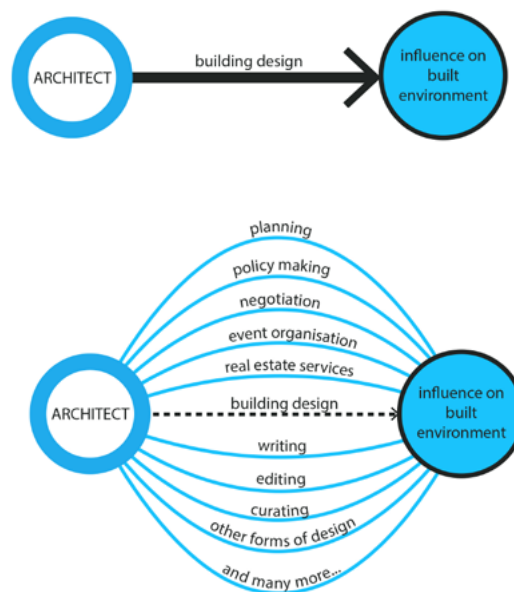


Figure 3. Traditional vs. alternative architectural production (author’s own diagram)

‘People who are communicating through writing, through editing, through curation, through critical understanding and through design are as much an Architect as somebody who sits by the desk drawing door schedules and toilets. On some level, these activities are very different but they are all worthy of the title Architect.’<sup>30</sup>

Taylor-Foster claims that non-traditional practices like Turner prize winners Assemble and the MSc CCCP course (Curatorial, Conceptual and Critical Practice) at Columbia University will soon generate a snowball effect and trigger the organic re-framing of the architectural profession.<sup>31</sup>

This paper adds to an existing body of research proving that spatial agency exists beyond the static product of a building.<sup>32</sup> It demonstrates that architectural knowledge can influence the built environment through operations beyond traditional architectural design. While this influence is undeniable, the question remains whether the presented alternative practices should be considered a formal form of architectural operation. Convincing the architectural community, the RIBA or the public that someone who writes a weekly architectural column, organises an architectural event, or mediates between a local authority and a community deserves the title Architect would be difficult.



Historically, it was the professionalisation of architecture that raised the prestige of architects in the eighteenth and nineteenth century. Today, it is the professionalisation and overprotection of the title that stops the field from expanding and puts it in a state of ‘powerful inertia’<sup>33</sup> effectively preventing architects from adapting to the powerful disruptors within the construction industry and public life.

The presented collection of stories is a good illustration of the various routes of architectural production. Even though not exhaustive, the selection aims to prove that the scope of the architectural profession is far broader than it is currently perceived to be and to make young architects ‘aware of the full range and far-reaching applicability of their talents and abilities’<sup>34</sup>.

All presented interviewees considered themselves Architects and believed they were enacting urban change in their own way even though they were not designing buildings. They refused to provide a list of fields where architectural skills would be useful, as they all thought the architect’s expertise could potentially be applied anywhere. This is not to suggest a return to the notion of the all-mighty architect who is good at absolutely everything. It is rather a belief that the only way to find the real boundaries of the profession would be to step beyond its current edges.

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# Integration of practice experience into the design of undergraduate courses.

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## ABSTRACT

The UK architectural education process is undergoing a series of reviews, but there are calls for more urgent action, and for improved collaboration between architectural education and practice. This pilot study investigates what pre-emptive pedagogical action is emerging in the current framework to integrate practice experience into undergraduate architectural education. The study explores initiatives from ten UK full-time architecture courses, from which a taxonomy of practice experience emerges. This is further explored in one of the case study courses, at Birmingham City University, and how its Praxis practice placement was iteratively developed to enable undergraduate students to develop connections between the discipline and profession of architecture. The process of this pilot study has identified themes and methodologies for future study.

**KEYWORDS** pedagogy, experience, collaboration, praxis, practice

There is anticipation for improved flexibility<sup>1</sup> of UK architectural education, and an overhaul of the lengthy route to becoming an architect. However, there is little evidence of significant change in advance of the RIBA's conclusive Education Review report.<sup>2</sup> The ARB Periodic Review Report recommended that the ARB should 'consider whether greater flexibility in length and structure of educational courses could benefit the architectural profession students whilst maintaining standards.'<sup>3</sup> The RIBA Education Review indicated that this could be achieved by subsuming 'teaching of professional competencies' into academic study so students enter the profession 'with a greater understanding of the professional and commercial context of architecture.'<sup>4</sup>

Change is unlikely to be forthcoming amidst the uncertainty of Brexit, as seen in the delay of the ARB Periodic Review,<sup>5</sup> and the potential suspension of the ARB Routes to Registration Review.<sup>6</sup> There is an argument that Brexit makes these reviews more urgent than ever: 'rather than being an excuse for inertia, [Brexit] should provide an incentive to act.'<sup>7</sup>

There have been calls for improved collaboration between architectural learning and practice,<sup>8</sup> and even to move further afield from the 'fixed hierarchies

and risk-averse bureaucracies'<sup>9</sup> of universities so 'more inclusive, accessible, community-engaged, practice-embedded, student-led, and affordable models of professional education can be pioneered and prototyped, expanded and exported.'<sup>10</sup>

Several models are emerging to bridge the gap between academia and practice, with a particular focus on innovations at Part 2 level. This is understandable, as the RIBA validation criteria require Part 1 graduates to have knowledge of the profession, whereas Part 2 graduates are required to have understanding.<sup>11</sup>

The UK Architectural Education Review Group put forward an argument that undergraduates should have a better understanding of the profession they may be entering:

'Very few students... could be expected to be aware of the realities of a professional life as an architect, despite exercising their best efforts to find out. ... It is perhaps not until the first placement in an architect's office that students have the opportunity to develop a more holistic understanding of what a career in architecture typically involves.'<sup>12</sup>

There are arguments for maintaining separation between education and practice at undergraduate level,<sup>13</sup> as students may not continue in architecture,

and they can obtain experience in part-time jobs, or after graduation. However, there is a 'misalignment between student expectations and the reality of practice [which] may partly explain why the majority of architectural undergraduates do not go on to join the profession.'<sup>14</sup> Students are not making a connection between their academic work and the profession they are potentially entering. Nor do they understand the possibilities of their career path, in architecture and other disciplines.

'... architectural practice is a complex and fascinating world so it's not selling students short to expose them to it.'<sup>15</sup>

There is an appetite for involvement of practice within undergraduate study, from both students and practices. The RIBA Skills Survey revealed that 79% of the employers and 77% of the students consulted believed 'that students should spend more time learning in practice'<sup>16</sup>, and practitioners are particularly concerned that students are not work ready.<sup>17</sup> Maria Smith identified that 'the issue of whether or not architecture schools should be delivering 'oven ready' architects'<sup>18</sup> is a barrier to practice being better integrated into education.

UK architectural education has evolved since the mid-twentieth century apprenticeships and 'learning on the job'.<sup>19</sup> However, Allen Cunningham argued that the decline in apprenticeships, following the 1958 Oxford Conference on architectural education, 'eliminated any obligation for practitioners to serve as masters to guide aspirants... and therefore placed the onus upon academics to produce 'complete' architects, a fatuous expectation which endures.'<sup>20</sup> A consultee of this study, who had undertaken practitioner consultation, encountered negative connotations of learning in practice, with particular reference to experiences from the 70's and 80's:

*'They were of a different time and culture. The expectation of practices to teach was not there; or the support for students, or lifelong learning. The context has moved on.'* (Academic 2)

Catherine Slessor argued that 'without the roots of professional practice being nourished, energised and sustained by new ideas and new thinking, the profession is in danger of atrophy, fatally disconnecting from society.'<sup>21</sup> By building deeper relationships with the profession, continued and emergent changes in contemporary practice and education can feed into

each other. Practices could have a more active role in the education process, beyond reviews, tutorials, and shared lectures.

It could be argued that if there was earlier interaction with practice, with additional support and guidance from both universities and practices, undergraduates could potentially gain critical awareness before they decide to undertake the mandated periods in practice. It could also help students build their networks, recognise and value their transferable skills, and increase their chances of securing employment, whether in architecture or outside of the discipline.

Bridging education and practice at an earlier stage could foster innovation in graduates' future professional and academic work, encouraging them to 'develop research... to the mutual advantage of both practice and academia.'<sup>22</sup> They could go beyond the 'understanding of the context of the architect and the construction industry',<sup>23</sup> to understanding the context of the architect and academic agency.

If students gain an understanding, and enthusiasm, for the profession at an earlier stage, they are more likely to take control of their own networks and transform approaches in both practice and academia, rather than fitting in with the existing conditions. They can lead the change.

'Learning is the process whereby knowledge is created through the transformation of experience.'<sup>24</sup>

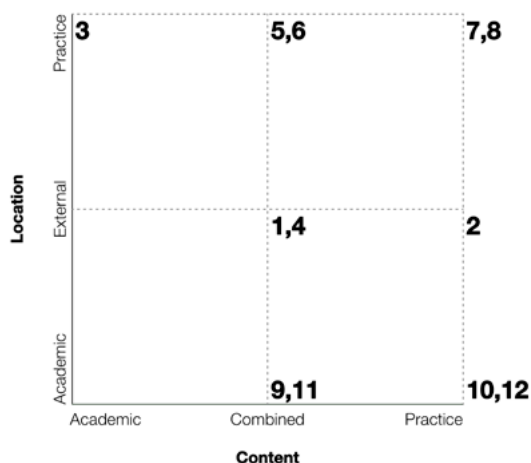
Whilst uncertainty looms ahead, this pilot study explores how pre-emptive action is being taken by various UK schools of architecture to integrate practice collaboration and experience into full-time undergraduate courses, in order to identify themes and methodologies for future study.

### Methodology

In order to gain an understanding of the current landscape of UK initiatives, this pilot study analyses representative case studies from ten undergraduate architecture courses within the RIBA validation system, representing a cross-section of approaches. This has involved semi-structured interviews with academics and course leaders, and secondary searches into publicly available material on institutions' websites.

From this exercise, an initial taxonomy of practice experience emerges, which is used to further analyse

one of the case studies, Birmingham School of Architecture & Design (BSoAD), Birmingham City University. The case study explores the development of the practice placement in Level 5 as part of the BA (Hons) Architecture course. This involved identifying the design decisions within the iterative development of the placement. The impacts of these decisions were tested by means of an online questionnaire distributed to students who participated in the practice placements between 2015 and 2017.



1. Construction site visits led by lecturers
2. Construction site visits led by practitioners
3. Hot desking to progress university work within a practice setting
4. Live projects led by the school and engaging with real stakeholders and practitioners
5. Mentoring through a practice partnership scheme
6. Mock interviews with practices
7. Practice placement
8. Practice visit
9. Presentations to practices
10. Project office situated in school
11. Studio projects with real client interaction in reviews
12. Visiting practice lectures

Figure 1: Context of practice experience activities (Authors' image)

This pilot study incorporates initial and non-exhaustive research, which has started to be inputted into various evolving diagrams. Direct references to the courses and schools, and quotes from academics and students who were consulted, have been anonymised.

### UK Case Studies

'We believe that integrating the teaching of professional competencies into the academic

framework will produce a radically different pedagogy, and change the way in which architecture as a subject is thought about and taught.'<sup>25</sup>

In the UK, there are various established and evolving models of practice experience incorporated into undergraduate academic frameworks. The ten courses observed or consulted as part of this study gave an insight into the variety of learning activities that include a level of practice collaboration or profession experience. In order to understand these activities in relation to education and practice, the context of each one was considered according to:

- Location: whether the activity is situated in an academic, practice, or external setting;
- Content: whether the content is based on academic or practice sources, or a combination.

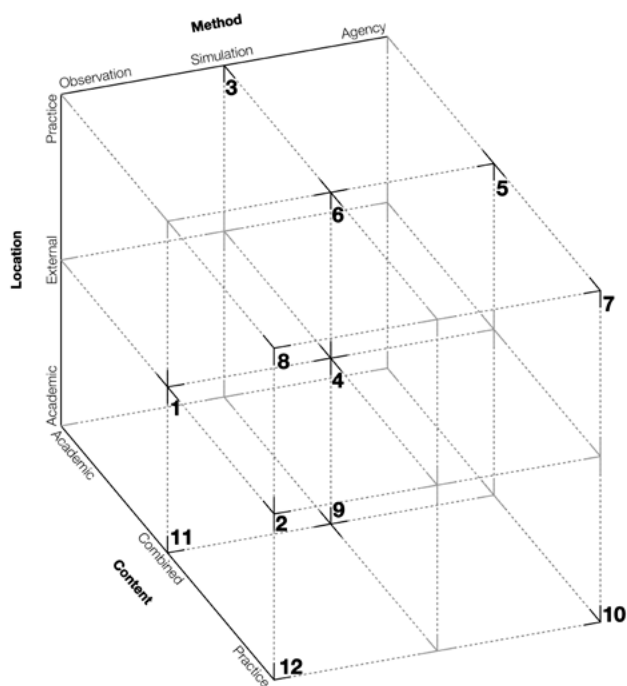
Figure 1 illustrates an attempt to map the activities observed. The axes are intended to be a sliding scale, but for the purpose of this pilot study, the position of each activity has been simplified and limited to the axes' gridlines.

An initial observation from this exercise was that although some activities shared the same location and type of content, the type of student experience would be very different. For example, a student's experience of attending a lecture at university, presented by an architect on their work in practice (activity 12), would contrast greatly to working on a project in the school's project office (activity 10). Both activities are located in the university and have strong practice content, but the level of interaction differs. A third axis was therefore introduced to the diagram (Figure 2) to identify the method in which the students participate in each of the activities:

- Observation, i.e. looking, listening;
- Simulation, in which students contribute through action, but one or more elements of the activity are simulated;
- Agency, in which students contribute through action without simulation.

References to passive, active or authentic<sup>26</sup> learning have been avoided, as the aim of this diagramming exercise was to visualise the activities and how they contrast, rather than allude to the quality of experience, or suggest a primacy of either learning in education or practice.





1. Construction site visits led by lecturers
2. Construction site visits led by practitioners
3. Hot desking to progress university work within a practice setting
4. Live projects led by the school and engaging with real stakeholders and practitioners
5. Mentoring through a practice partnership scheme
6. Mock interviews with practices
7. Practice placement
8. Practice visit
9. Presentations to practices
10. Project office situated in school
11. Studio projects with real client interaction in reviews
12. Visiting practice lectures

Figure 2: Context and methods of practice experience activities (Authors' image)

Some of these activities will occur in more than one method of activity. There were a variety of types of live projects evident in the case studies (two examples shown in activities 4 and 10), with physical or theoretical outcomes, and led by educators, clients, or practitioners. More detailed exploration of this would be required, but the diagram is useful as a tool to compare the range of activities observed so far.

The practice placement (activity 7) is positioned furthest away from solely academic activities, suggesting there is less pedagogical control of this activity. This activity was explored further within the

case studies to observe how it could be integrated back into academia.

Although all ten courses had examples of experience with practice, only seven of the courses stated that practice experience is provided within the course content. Of these seven courses, five had inclusion of practice placements. Figure 3 visualises the different course approaches to provision of placements in relation to duration, involvement of student year groups, and integration with other activities. Where information was available, the level assessment has been included in the following descriptions.

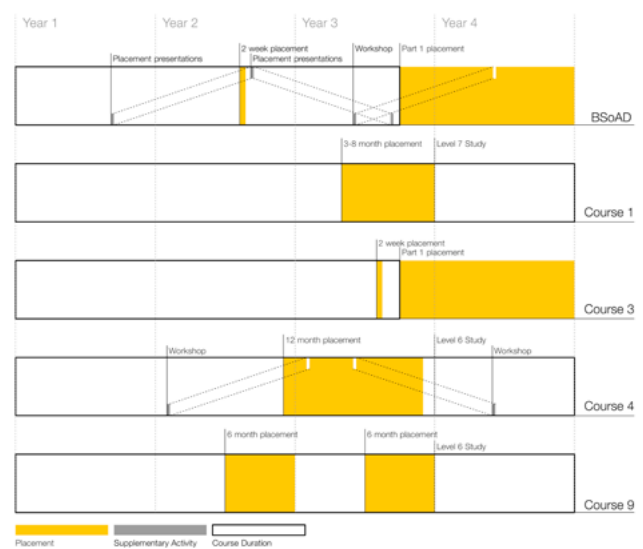


Figure 3: Overview of case study practice placements (Authors' image)

### BSoAD

The BSoAD course includes a two-week placement in second year. Students' contextual understanding and reflection of their experience is assessed, which includes presentations to first, second and third year cohorts. In third year, a workshop is undertaken with current year out students. The placement is discussed in more detail in the BSoAD case study.

### Course 1

The four-year course requires students to secure employment for a period between 3 and 8 months in the second semester of their third year. It is a credit-bearing module, and students are required to produce a design report that relates issues from the lecture series to a design project they have worked on in practice. They also produce a reflective essay on a topic relating

to contemporary professional practice, with the option to reflect on their own work experience.

### Course 3

The three-year course provides a two-week placement in third year.

### Course 4

The four-year sandwich course includes a placement year during the third year. During the placement, students are visited by their placement tutor, they go on a study visit, and they attend workshop days with students in years above and below. The students are required to write a report reflecting upon their experience.

### Course 9

This sandwich course has four years of study. The equivalent of the year out placement is distributed between two six-month placements in the second semesters of second and third year. Students are required to arrange their own placements, with support from the university. The placement is a credit-bearing module, and students are required to prepare a visual piece illustrating an aspect of their experience.

### Challenges to Integration

This initial research revealed a range of pedagogical approaches, with several schools offering more than one example of practice engagement within their courses. Some of the institutions attested to the benefits of high quality practice experience provision, in a range of formats and scales, upon student employability.

*'Students are given access to 'Real' Clients, 'Live' Projects and practitioners from the moment they enter the School in the form of core and extra-curricular activities. Core curricular activities will be assessed and will assist the students in their preparation for practice... they range from taught courses to practice visits to year-long placements.'* (Academic 3)

Other institutions had considered introducing short practice placements to their courses, but faced challenges. These included the logistics of arranging placements for a large volume of students, and the associated costs of their travel to practices outside of the local area.

*'The course is already overloaded, and we would*

*struggle to accommodate additional content - this would involve dropping something else of value. Many of the skills learnt in [an undergraduate] placement (confidence in dealing with people, professional attitude, timekeeping, etc.) are skills our students on the whole already possess - many work before and/or alongside their studies. So the benefits of a work placement are perceived to be relatively limited'. (Academic 4)*

Other concerns related to engagement and assessment. Some academics wished to see more reflective assessment of practice experience outside the Professional Practice modules, and wanted extra-curricular activities to become more integrated, and assessed, within the course.

*'It is only when the learner actively engages in reflecting on the experience that the learning may be recognised and applied'.<sup>27</sup>*

From the information available, it appears that reflection of practice experience is limited to assessments, in the form of reports or presentations, after practice placements. This is particularly evident with the sandwich courses. It is arguable that the length of these placements makes it possible to integrate reflection of this experience into the course, without impacting the resources of other modules. This points towards a potential increase in this type of provision:

*'... by encouraging the integration and embedding of professional skills, the RIBA envisages that more Schools of Architecture will consider sandwich courses, which would reduce tuition fees.'<sup>28</sup>*

On the other hand, long placements within a sandwich course setting could arguably elongate the education, and increase the debt, of students who would like to enter another discipline.

*'This is an opportunity that will clarify any doubts or expectations you may have as an individual studying architecture. The 2 weeks will be the catalyst in deciding whether architecture is for you or not.'* (Student 18)

The following case study explores how similar challenges have been faced in the iterative development of the BSoAD Level 5 practice placement.

### BSoAD Case Study

In 2013, BSoAD introduced two-week practice placements into the BA (Hons) Architecture Level 5 course. A placement coordinator at BSoAD arranges the placements, and visits each participating practice

beforehand to discuss the types of activities the student will be participating in.

Two members of BSoAD staff interview every Level 5 student regarding their current interests and career ambitions to help define the type of practice they will attend. Each student is then matched with a participating practice, and given an opportunity to request a change if they are not satisfied with their selected placement.

It is difficult to control the content of the placement or to rely on practices to assess the students' learning, so the students are not assessed on what they produce or how well they perform during the placement. They are assessed on their contextual understanding of the field of architecture and their place within it.

The placement takes place towards the end of the second semester with the intention that the students would accumulate enough skills at a more advanced level within Level 5 to apply in practice, and then have Level 6 to apply what was learnt in practice back into their academic work.

Initially, the placement was part of an existing module, but in 2014-15 it formed the basis for a stand-alone Management, Practice and Law module named Praxis. The following year, exercises in technology, theory, and studio were developed to link to content of the Praxis module, and build toward the work placement.

#### *Development of the Initiative*

The 2015 United Kingdom Engagement Survey (UKES) data revealed that the BSoAD BA (Hons) Architecture Level 4 was performing well in peer learning, critical thinking, skills development, and engagement with research. However, it was evident that the students were not making a connection between their university work and their future career.

With reference to Alf Lizzio's Five Senses Model<sup>29</sup>, this indicated that the students were lacking a 'sense of purpose' in relation to:

Disciplinary Engagement - relevance between the course content and their career; and

Vocational Direction – developing a sense of their future identity.

John Biggs' model of Constructive Alignment<sup>30</sup> was used to review the learning outcomes, delivery, and assessment of Praxis and other Level 5 modules. This was done to avoid over or double assessing across

modules, with the additional aim of maximising the impact of the placement by connecting the experience to other taught exercises.

'Curriculum creation becomes a social activity involving considerable reflection and discussion. It is creative and full of play in terms of flexibility and elasticity'<sup>31</sup>.

Anecdotal feedback from students to staff, through formalised module feedback mechanisms before and after the placements, indicated that although a number of students saw the benefit of the placement in aiding their education, they were still not connecting the skills they had learned and practiced in university with tasks they were able to complete during their placement.

It was clear that all the material was being delivered and strongly aligned with assessment; yet something was not building the students' understanding of how their course relates to a career in the architectural profession.

In response to this, exercises were introduced into the studio module in the weeks following the placement in 2015-16 to guide reflection and build connections between the students' placement activity and their work in other modules.

'The individual's experience needs to be followed by some organised reflection. This reflection enables the individual to learn from the experience, but also helps identify any need for some specific learning before further experience is acquired.'<sup>32</sup>

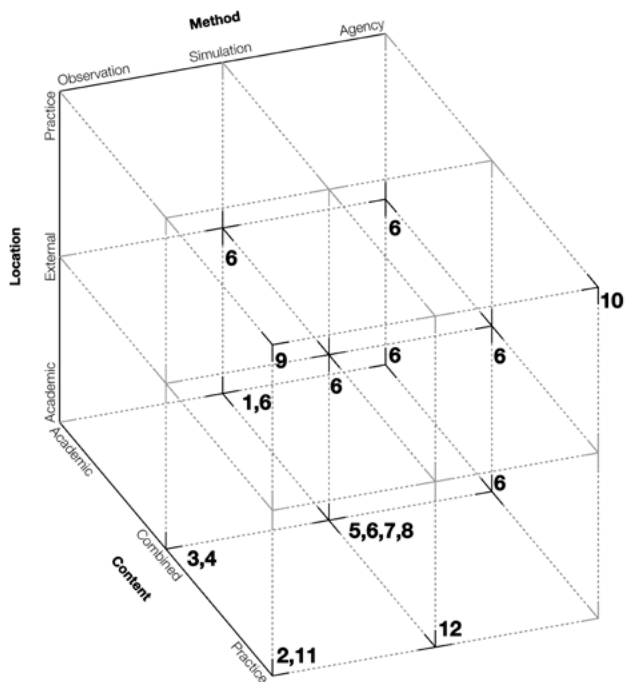
The practice placement, therefore, has two key roles in context of the whole year (and in turn, the whole course):

- Enable students to collate all the experiences of Level 5 into a professional context; and
- Encourage students to relate their development to their future academic and professional work.

#### *Preparation and Development of Contexts and Reflection across Modules*

'Contexts can... be thought of in terms of frames of reference, or meaning structures... These are usually assumptions or opinions that we have accepted without critically examining them, often cultural or social attitudes—our paradigm.'<sup>33</sup>

The experiences designed into Level 5 2015-16 were mapped against the criteria explored in the wider case studies (Figure 4).



1. Studio - Design for student's own creative working space.
2. Praxis - Lectures on contemporary practice.
3. Theory - Analysis on how established theories are linked to contemporary practices' processes.
4. Studio - Precedent studies and analysis of contemporary practices and their processes, including their working environments.
5. Technology - Interdisciplinary architectural design in groups with structural design students.
6. Co.Lab - Multi-disciplinary architectural design and research with a variety of stakeholders.
7. Studio - Experimentation with design processes identified from contemporary practices in early stages of design.
8. Studio - Incorporation of technology into early stages of design.
9. Praxis - Pre-placement practice visit.
10. Praxis - Two week practice placement.
11. Praxis (post placement) - Pecha Kucha presentations on practice placement experiences.
12. Studio (post placement) - Design for creative working space for a practice.

Figure 4: BSoAD Level 5 2015-16 learning experiences prior to and after the placement (Authors' image)

It is intended that students prepare for their placement by undertaking observation and simulation activities across all modules to develop a catalogue of contexts for them to reference their placement

against. The aim is for students to develop knowledge of contemporary practices and their design processes in their theory module, and develop understanding of these processes through application in their design modules. The students also work with other disciplines and stakeholders in the Technology module and Co.Lab, a module that encompasses a variety of research-based and live projects that engage a variety of 'real world' stakeholders.

'The disciplines, therefore, provide contexts for the learner, and designing a curriculum that favors the integration of these contexts over the separateness of disciplines is fundamental to creative thinking. An integrated curriculum should allow for the sharing of perspectives among disciplines and across time.'<sup>34</sup>

Boud, Keogh and Walker developed a model of reflection that identifies the learners' experience, behaviours, ideas and feelings that they have engaged with, and how these can be reflected upon, 'which may be a personal synthesis, integration and appropriation of knowledge, the validation of personal knowledge, a new affective state, or the decision to engage in some further activity'.<sup>35</sup>

After the placement, the students return to activities that involve observation and simulation as tools to reflect upon their placement experience. This includes the production of a reflective report and presentations on their experience and reflection to the whole cohort, including Level 4 and 6, to help students observe the variety of practices, and broaden their views on their own career trajectories.

'...the learner transforms experience into learning. This learning is not done in isolation but as part of communal activity and sharing of perspectives and cultures.'<sup>36</sup>

This is intended as an opportunity for the students to build informed opinions of the profession at undergraduate level, as a cohort, to enable collaborative innovation of praxis in later study and work.

The placement is ultimately intended as a tool for recursion: 'Recursion suggests a nonlinear approach to curriculum, whereby students reflect on their learning over time, examining how their understandings change and become altered with the accumulation of knowledge and experience.'<sup>37</sup>

### Assessing Integration

Students who participated in the practice placements between 2015 and 2017 were approached as part of this study to complete a questionnaire about their experience.

The response rate was 20% of all students, of which 19% were graduates (2015 placement), 35% were in the process of graduating from Level 6 (2016 placement), and 46% had just finished Level 5 (2017 placement).

One purpose of the questionnaire was to review the impact that the students' university learning experience had on their placements, so the students were asked what they found useful from each of their modules for the work they did during their placement. Theory & History were most valued for developing the students' knowledge of architecture, and understanding of theories that they found helpful in design discussions:

*'Theoretical understanding of architecture is what allows you to think and converse at a deeper level with colleagues.'* (Student 18)

Students found that studio assisted them with design process:

*'This year in studio I have been able to break down individual steps of design to give a better understanding of space when creating. This was important in practise [sic] as I was focussing in on aspects of design that needed detail'* (Student 23)

Technology was particularly helpful in developing the students' understanding of construction details and materials. A few students referenced the interdisciplinary group design project they undertook at the beginning of Level 5:

*'Working with engineers allowed me to form a language between myself and other individuals that I will later work with. This also showed me what the engineer does in the process of design.'* (Student 23)

Co.Lab was mostly valued for developing the students' communication skills and ability to work in teams:

*'[Co.Lab] helped working with others and gaining knowledge from conversation. It also aloud [sic] me to realise how important balance is key and understanding that everyone has ideas that [they] can contribute.'* (Student 24)

Praxis gave the students an insight into practice, and the expectations of an architect:

*'It was good to see how what I am learning is*

*preparing me for practice as well as learning the difference between what I do in studio to what I can/will be doing in practice'* (Student 13)

*'It gave a solid foundation into the industry we where [sic] setting ourselves into. It aloud [sic] us to take time to understand how some practices worked and how all Architects work slightly differently. It also aloud [sic] us to understand what we wanted to aim for personally as what type of work you produce is the work you are going to show to the practices you want to have [a] placement in. Therefore, understand[ing a] practices [sic] ethos and way of business was critical [sic].'* (Student 24)

Having access to a breakdown of cohort responses allows a review of changing perceptions as the initiative developed, and curriculum design decisions were made.

A key moment in the development of the placement came between the student feedback in 2015 indicating students were not making connections about the relevance of their studies to their placement, and the reflective exercises introduced for subsequent year groups. Reviewing the students' perception of the usefulness of each module in this way provides useful insight (Figure 5).

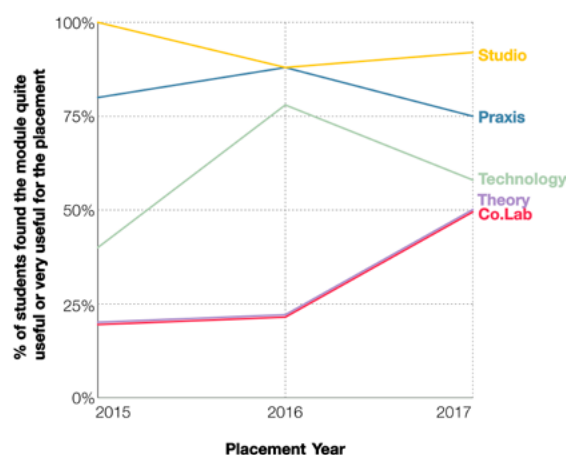


Figure 5: Breakdown of module usefulness by cohort (Authors' image)

Studio and Praxis were consistently seen to be useful to the students' placements. There was an increase in students making a connection between practice and their Theory and Co.Lab modules. Technology provides an interesting result, as there is a dramatically high jump from 2015 to 2016, and a decline in the following year. Further analysis would be required to gain a thorough understanding of the causes of these changes.



### Impact on Student Development

Another purpose of the questionnaire was to determine how the experience had impacted the students' understanding of the profession and, in relation to the second key role of Praxis, if their placement had impacted their approach to their future academic work and career. 69% of the students agreed that their placement had changed their understanding of the profession of architecture, and 80% agreed that it helped them decide what type of practice they wanted to approach for their Part 1 placement. 69% disagreed that the placement changed their career ambitions. These responses suggest that, following the placement, the students are more aware of their career path, but this new awareness has not significantly changed their goals. On the other hand, 85% stated that they were more likely to continue in architecture.

*'The experience helps to set your goals and keeps you focused. Having the confidence and advice from the professionals helps a lot and to some extent is the driving force to make you achieve.'* (Student 4)

The students were also asked what their expectations were of the placement. Several students wanted to experience work 'life' or 'culture', and more specifically what would be expected of them as Part I Architectural Assistants; they wanted to experience the 'practical' and 'real' side of architecture, beyond 'conceptual studies'. Only 31% of the respondents had previous experience in practice, with some of them looking forward to experiencing a different context and doing 'real work'.

*'I was feeling fairly confident and looking forward to my experience, but a little nervous that I may not be as useful to them as I would like to be.'* (Student 13)

A few of the students had concerns about their own ability, and what the practice's expectations would be of them. This echoes the findings of RIBA Skills Survey, and feedback from the academic consultees that practitioners think students do not have enough skills.

In contrast to the concerns prior to the placement, 92% of the respondents said their overall placement experience was enjoyable, and 100% would recommend a placement as part of the course. Several students stated that the most memorable part of their placement was the positive atmosphere of the practice, jointly with experiencing 'real' projects.

*'Going into practice has made me realise how much more I need to learn, as well as how much I have already*

*learnt, without necessarily realising.'* (Student 13)

*'Truly enjoyable, it aloud [sic] me to understand how everyone has there [sic] best and worst quilties [sic] in design. As well as that they do not exspect [sic] you to know everything, which was a huge help mentally.'* (Student 24)

46% of the respondents stated that they would like to establish their own practice with aspirations of creating studios 'passionate about regionalism and connectivity to its local community.' (Student 9) Several students wanted to form small to medium sized practices, specifying that the environment should be 'relaxed, 'flexible', 'collaborative', and 'healthy', so they could work on projects that are 'multi-disciplinary' and 'innovative'.

*'Small practice which works to design to better someones [sic] life, rather than being very formal and efficient.'* (Student 20)

*'Conceptual in nature but in the understanding that sole clients cannot afford certain things. A practice that works with materials not against them and tries to follow and [sic] sustainable outcome. Humble.'* (Student 24)

The students were also asked how they thought the placement would impact, or had impacted, their academic work and their approach to architecture as a discipline.

Students about to enter Level 6 (2017 placement) were particularly keen on improving their efficiency, quality of visual representation, computer skills, model-making skills, and their level of experimentation, critical thinking, and creativity:

*'[The placement] had helped me to be more confident and present my ideas clearly as in practice you are presenting your work to non architects so everything must be clear as possible.'* (Student 11)

*'To create a successful project, a brief needs to have a purposeful direction and definitive guidelines. Going forward, I will look forward to finalizing and designing my own briefs so that they may be better structured than previous projects.'* (Student 18)

Current Level 6 students (2016 placement) found that the placements had an impact on their third year work by helping them to improve their time management, process, software skills, and encouraging them to do more hand drawing:

*'I improved my design process as the key thing I learned was to always have a narrative that connects*

*the work and fills in any blanks. A lot of sketching was done at practice which I carried through to third year. It improved my confidence and gave me a little boost to give it my all.'* (Student 4)

Graduates 2015 placements) did not indicate that the placement had any impact on their Level 6 work, but it had influenced what type of practice they wanted to approach.

This indicates that students can gain more than professionalism, time keeping and communication from practice placements. Their comments on creativity, experimentation, design approaches and discussion suggest they are gaining skills and experiences that they can apply to their academic work, and develop as designers.

### What Next?

This pilot study has shown the level of inventiveness in initiatives across the UK to integrate collaboration between architectural education and practice at undergraduate level.

The review of the ten case studies generated a tool for mapping the initiatives, which was subsequently used to identify the range of activities within BSoAD's Level 5 course that attempt to bridge academia and practice. One of the key outcomes of the investigation is that there is not a lot of data on the 'integration of practice experience' with which to form conclusions regarding relative merit and quality. Following further development, educators could potentially use the axes mapping as a reflective tool for course and exercise design, and to help identify the potential for other methodologies that could be employed. Furthermore, they can visualise their proposed intervention to gain a clearer indication of the extent of the integration of practice experience. Other tools could be developed to assist with monitoring the outcomes of these initiatives and activities.

By focusing on practice placements, the study revealed a stigma associated with learning in practice at an early stage, particularly in relation to the type of skills that students can learn in practice, but also the challenges with controlling and assessing the pedagogical experience. The exploration of the iterative development of the BSoAD placement demonstrated one way in which practice experience can be integrated within the course through pedagogical strategies that attempt to engage students to reflect upon their

experience within different contexts. This research has started to identify how some of these activities, such as the placement presentations, enable students to learn collaboratively within and across cohorts and modules. It also demonstrated how changes to the curriculum and constructive alignment can have an impact on students' experiences, and how they can make connections between the discipline and profession of architecture.

Cross-cohort activities were also evident in the other course case studies. Further study could investigate the aims, assessment methods, and outcomes of practice experience initiatives in other courses, allowing for the analysis of the impact of these upon cohorts. More detailed consultation with other institutions, including outside of the UK, can be undertaken. Interviewing practices who have participated in the initiatives, and those who deliberately avoid it, would enable a more in depth level of insight into the preconceptions and reflections of integrating academia into practice, and vice versa.

The effect of placements upon students' academic work and career decisions should be explored in greater detail. Key to this is student input from across the UK, with a parallel study of students' experiences with other methodologies identified in this study. It is possible to use qualitative data from the student questionnaire to inform a more comprehensive questionnaire that gathers more focused quantitative data. This would enable analysis of how students' and graduates' views and approaches to their academic work and profession aspirations change, before and after their experience of practice initiatives.

The study would benefit from research into whether early integration of practice collaboration in academia affects graduates' approaches to their career, including reviews of emerging practices that innovate in both academia and practice: Do they have roots in early practice experiences? Were they able to build bridges between their academic and professional aspirations, and venture into other disciplines? Have they created hybrid approaches that are evolving the profession and education of architecture? Are they leading the change?

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# The collateral effects of academic DesignBuild: students and community.

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## ABSTRACT

Within a complex set of learning objectives and project goals DesignBuild Studios are stressing the positive impact of the projects on students and collaborating local communities. The question on how to measure this impact and thus on how to develop evaluation and quality standards for the projects however still remains: How can we define and value the outcomes, the success and effects of DesignBuild on all groups of actors involved in the projects? This paper is presenting the outcomes of a survey with over 150 participating students in DesignBuild Studios at two different institutions in Germany as the first phase of an on-going research project.

**KEYWORDS** DesignBuild, evaluation, trans-disciplinarity, social engagement, interculturality

In recent years the practice of socially engaged architecture has been winning increased public attention and has stepped out of its image as individual activism by only a few.<sup>1</sup> With more and more schools of architecture worldwide that are undertaking projects engaging their students in real world challenges this movement is also becoming evident in architectural education - most often in DesignBuild projects. Within a rather complex set of learning objectives and project goals the studios are stressing the positive impact of the projects on students and the collaborating local community. The question on how to measure this impact and thus on how to evaluate the outcomes of the projects however still remains.

The involvement of local communities in DesignBuild projects taking place abroad in the global south is frequently being discussed. This is relating to questions on post colonialism, economy and ecology, therewith questioning the sustainability and inclusiveness of the projects. The endeavours of a few idealistic adventurers has led towards a movement of an architectural practice that defines itself as more inclusive and locally embedded. A joint theoretical statement or manifesto by the involved architects themselves, currently dedicated to socially engaged

architecture would be essential to define evaluation standards but is still lacking.<sup>2</sup>

How can we define and value the outcomes, the success and effects of DesignBuild on all groups of actors involved in the projects? How can we specify relevant categories and criteria and thus a range of evaluation and quality standards for the projects?

This paper is part of an ongoing research project on the development of evaluation standards for DesignBuild projects. It is based on our work in the field as students, initiators and teachers since 2009 at two different institutions in Germany: the Technische Universität Berlin and the Technische Universität München. Studios at both institutions are sharing their main aims and goals: to educate students to become agents of change by promoting an architecture of social engagement, and at the same time to provide students with profound constructional planning skills and knowledge about the use of sustainable materials by involving them in design and construction.

## Background

According to the definition of DesignBuild published on the dbXchange.eu platform all projects are sharing a set of common characteristics: the

embedment in higher education, they all have a brief, budget and timeframe, they have a client/user, are built, have students involved in design and construction and are of architectural, social, cultural, scientific, technical or artistic relevance.<sup>3</sup> In order to facilitate the projects studios are operating in different formats and constellations, most of them are working transdisciplinary and interdisciplinary. Academic teaching staff and students are collaborating with client organisations, NGOs, funding organisations, craftsmen, governmental bodies, international development cooperation agencies, international academic exchange services and external experts amongst others. A relevant methodology for evaluation needs to include the perspective of all these actors involved in the projects.

As a first step in early 2017 we developed a questionnaire and shared it via email and social media with former participating students in two DesignBuild studios at our institutions: the Mexiko DesignBuild Studio at TU Berlin (1998 - 2012) and the TUM DesignBuild Studio (since 2005) at TU München. This student survey was chosen as a starting point for the definition of relevant categories as they are the group of actors all projects are based on. 668 questionnaires were sent out, receiving a total of 160 answers.

### Student Survey

The questionnaire includes qualitative as well as quantitative questions aiming to identify implications of the projects on the professional as well as the personal lives of the former participants. How had the students that took part in the projects really become agents of change? How were they influenced by the projects and how did the projects actually shape the people on a personal and a professional level? Questions for example included queries on the current field of work, on specific situations that participants would still remember, a perception of design and construction process, qualifications acquired, possible influences on a personal world vision and contacts and networks that were still important for the respondents.

The answers provided via the questionnaires were scanned horizontally and vertically. Therewith a first categorisation of the main effects the projects were perceived to have had on the students in their own perception was set up. Thus seven effects were defined:

#### 1. Intercultural competencies

Intercultural competencies are being defined as skills that allow people to relate to and interact with others whose social or cultural context is distinct with the purpose of fostering a “democratic culture” of communication and understanding through “intercultural dialogue”.<sup>4</sup>

To open oneself to an unknown cultural context is challenging for students, and as well to the local community partner as a counterpart. The intense engagement in a DesignBuild project by living and working in a community for several weeks or collaborating with community stakeholders for much longer provides a unique possibility for getting to know different cultural contexts. As one participant in the Mexiko DesignBuild Studio in 2000 stated: *“On the way, you learn how difficult it is to get the first beer crate in the local shop, and how good the tortas taste after a good day of concrete mixing for the foundation. I have never immersed into another country for so long and so precisely ever after.”*

Engagements often lead to mutual learning, greater respect, and better understanding of cultural differences, beyond professional training. Some participants were reflecting on the intercultural aspects of the projects precisely pointing out these potentials: *“My vision was extended to the interior of my country and of course to the outside of it, I think it was an experience that helped me to understand that cultural differences are a bridge, not a problem.”*

#### 2. Experience in making

According to the definition of DesignBuild students are involved in the design AND the construction of the projects. This hands-on experience is one of the main characteristics that is also posing a difference to regular design studios. Students are collaborating with local workers and craftsmen, discussing their plans, they get engaged in the whole building cycle from excavation to setting the last nail on the roof. *“The work on the construction site of the prototypical school in Lusaka has brought me closer to my own work in craftsmanship work and reduced the barrier between plans and execution.”*

Prof. Hermann Kaufmann, Associate Professor of Architectural Design and Timber Construction at the Technische Universität München, for instance justified his motivation by saying that, for a generation in which



reality is displaced more and more by virtual aspects, the implementation of student projects is decisive for a fundamental understanding of architecture. Buildings are material objects, and materials have their own laws, which in turn have a strong influence on the form and the architecture. For that reason, one sought a means of giving students an opportunity to implement their own ideas:<sup>25</sup> *The Mexikoprojekt was an exciting and formative lesson on the question of how to convert thinking into action. In addition to the learning effect concerning craftsmanship and learning new ways of traveling to another country and to another culture, it was above all important to know that one can build a lot with one's own hands. Since the work in Etla, I know how to mix concrete and rebar steel, how to calculate a roofing binder and how to design a nail image. Since then this has helped me in every project I have done. Literally in every.*"



Figure 1. TUB DesignBuild in Guadalupe Miramar, Mexico (Nina Pawlicki/CoCoon-Studio)

### 3. Professional experience

The projects require an intense engagement of the students in settings that resemble their future professional life as architects. Communication skills are acquired via the built outcome as a common goal. Coordination within the whole team, with different disciplines is required, decisions need to be taken and agreements need to be made: *"For the first time it was really about having an idea and defending it. To provide real arguments and discussions also with other design groups."*

The execution of a project through all stages, the communication with the future users and clients, the coordination with craftsmen and actors involved is certainly attracting attention in the portfolio of the

students when applying in offices: *"The Afrikaprojekt as part of my CV was a main subject in all my application talks and has certainly helped me to find good jobs."*

### 4. Self confidence

Having achieved something that did not seem achievable at first in an often complex interdisciplinary and intercultural context is having an influence on how the young future architects are acting. One former participant describes her own perception of confidence that was triggered by the projects: *"Shift of priorities, increased perseverance and patience, to question issues and to react more confidently in strange situations."*

The intensity of the projects and thus their influence on not only a professional but also a personal level is perceived as one of the long-term effects of the projects by this participant: *"I have gained the insight that 'Existenzangst' is a very vague concept. I am still struggling with some absurd things away from standards - a sequel of the Mexican project."*

### 5. Networks

The close working together between different cultures and disciplines on one precise project is often creating a long term network of colleagues and friends. This may refer to intercultural contacts: *"For me there were two very emotional farewells in my life - the first one was the departure from the GDR in 1986 with many tears and the second one the farewell from Rio Humo, also with many tears."* But also to interdisciplinary ties. This is what one of the civil engineers of a Mexico DesignBuild stated: *"...now I can understand architects"*.

Although the working together was in general a characteristic point that was mentioned by nearly all respondents, e.g. *"Although we worked together in a large team, everyone was equal in the design and could contribute. I believe that through the intensive cooperation we have all learned a lot and have grown during the project."* hardly any professional firms were mentioned that emerged by collaborating former participants. ZRS – Ziegert I Roswag I Seiler Ingenieure und Architekten in Berlin is one exception.

### 6. Perception of complexity in design

The interlacing way of working together is often making the complex setting of socially engaged architecture projects more visible and tangible to the students: *"I became more aware of the interplay of*

social, cultural, material, craft, and other aspects.”

Being required to communicate and negotiate with people such as future users, craftsmen and experts as real counterparts is being considered as an experience that shaped a future view on the own work: *“The special thing about the design for me was to deal with human beings. During my entire studies, I had never had the feeling to include this subject so much. In many cases, the design is all about beautiful spaces, but that the human being is and lives at the centre of this space is being forgotten in many of the designs.”*



Figure 2. TUM DesignBuild in Tanzania (Matthias Kestel)

## 7. Shift in personal life

*“You think differently about life!”* is what one of the students answered regarding his own perception of the effects of the project on his personal life. Most obvious there are certain effects on the interface between professional and personal life that were highly influenced by the projects. For example the establishment of an own business with craftsmanship or even mezcal import/export, people moving abroad to the countries where the projects took place or other job opportunities that derived from the projects. *“The wish for a career was never very strong with me - but it has completely withdrawn afterwards. As an architect and dreamer for architects, I just want to make people happy and have developed an enormous demand towards humanity.”*

There is also one qualitative effect in this category: the parents of 11 children met because of the Mexico DesignBuild Projects, 8 children were born to former TUM DesignBuild participants.

These seven effects are running side by side in most of the cases, which is referring to the parallel influence on the professional and the personal life of the former

participants. Herewith the term collateral effects is also a reference to the title of the exhibition that was organised in the framework of the first encounter of international DesignBuild Studios and their collaboration partners at the symposium DesignBuild-Studio: New Ways in Architectural Education at TU Berlin in 2012.

Reflecting on the answers provided for a whole project cycle we conclude that the setup of the projects itself, such as the network it is based in, the quality of collaborations, etc. is reflecting on the student's perception of the project. The smaller the group was the more responsibility was taken over by the students which can be witnessed by answers that were more referring to the organisational side of the project than others. Within recent generations the contact to the users abroad is being upheld more frequently for example via internet.

Apart from the seven collateral effects mentioned above there were also some quantitative elevations made via the questionnaires. One is referring to the current field of work:

- Architecture: 67%
- Landscape architecture: 6.7%
- Engineering: 8%
- Craftsmen: 4.7%
- Development cooperation: 7.3%
- Other: 7.3%

### Current field of work

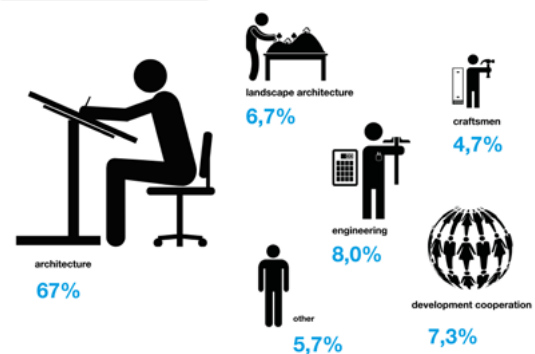


Figure 3. Current field of work of former participating students

The second one to the key qualifications acquainted with participating in the project:

- Intercultural understanding: 81%
- Teamwork: 77%
- Construction / detailing: 66.8%

- Adequacy: 64.7%
- Global correlations: 64.7%
- Knowledge on the use of material: 64.5%
- Sustainable building: 52%
- Participation: 52%

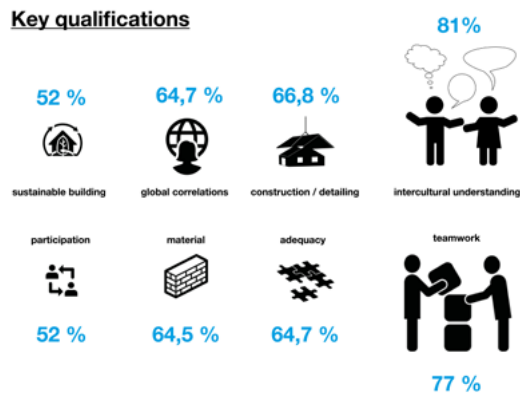


Figure 4. Key qualifications acquired as perceived by former participating students

The question on the key qualifications is showing the participation aspect as a potential that is far from being exhausted from a student perspective. Whereas qualifications such as teamwork and intercultural understanding that are rather focused on the working group themselves are rated quite high, participation can be found in the lower section. This is leading towards the next phase of the project which is the survey on the impacts on the collaborating communities themselves.

### Outlook – community survey

The questionnaires for the students of TUB projects in Mexiko and TUM projects in Africa served as an entry point in order to understand the implications of the projects on the former participants. A future step would be to transfer these answers into more quantitative and general questionnaires including a variety of DesignBuild studios. This should also include studios working in their home countries, short and long term initiatives in various scales. And to extend them to not only evaluate the student perspective but also the perspective of the local communities involved.

The basis for this future survey is being provided by three project types that were set up. These types are differing by the initiator of the project:

#### 1. Initiated by academic staff

The first type, which is also the most common one, would be projects that are being initiated by academic teaching staff themselves, in some cases because of a special request by a future user organisation. Collaboration partners are then being chosen for specific expertise needed. Students join the project as part of their regular curriculum under the specific regulations that apply to enter the course. Organisational tasks are sometimes being handed over to the project team of students according to the size and logistics of the project.

#### 2. Initiated by students

Most often as thesis projects these projects are initiated by one or more students. They are typically based on a direct approach of activism relating to a specific social or spatial challenge. Often this is including a partnership with a specific organisation or individual on a personal level. In order to embed the project into their educational curriculum the initiators are then involving supervising academic staff.

#### 3. Initiated by collaborating organisations or individuals

These projects are based on the engagement of a specific organisation or individual aiming to find collaboration partners in order to realize a spatial vision. This could for example be social entrepreneurs or development cooperation agencies. They typically approach an individual or an organisation in the realm of a DesignBuild Studio in order to support their idea. Contrary to the projects initiated by academic staff the collaborator typically takes care of providing the budget for the project and stay in charge of related operational logistics over the whole project cycle.

These three types of projects were identified in order to develop three types of further surveys for each type of main responsible or contact person. The distinction will be made in order to find an appropriate method of communication for each actors as their specific project goals and approaches are usually differing. The questionnaires developed will then be to spread via the dbxchange.eu network.

## Endnotes

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# Live Lab. Setting up a pedagogical platform for durably built relations with community-based clients.

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## ABSTRACT

This presentation is a critical reflection on different, but not self-evident, ways of integrating 'live' education into the architecture curriculum at the faculty of Architecture and Arts of Hasselt University during the past academic years. We discuss the institutional, pedagogical and theoretical motivations and the challenges this poses using two cases. Furthermore, we present the structure and concept of the 'Live Lab': a pedagogical platform that cuts across the architecture curriculum integrating a design studio project, a participatory design project and a design and build project in one participatory trajectory to address these challenges.

**KEYWORDS** live projects, pedagogy, community-based client, co-production

This presentation is a critical reflection on different, but not self-evident, ways of integrating 'live' education into the architecture curriculum at the faculty of Architecture and Arts of Hasselt University during the past academic years. We discuss the institutional, pedagogical and theoretical motivations and the challenges this poses using two cases. Furthermore, we present the structure and concept of the 'Live Lab': a pedagogical platform that cuts across the architecture curriculum integrating a design studio project, a participatory design project and a design and build project in one participatory trajectory to address these challenges.

Building on an inclusive definition of 'live projects', the negotiation between an external, community-based client and the educational institution sits at the core of architectural live education<sup>1</sup> We argue that this process of negotiation is the primary pedagogical

goal of different formats of 'live' education. This can be achieved both in more 'traditional' design studio projects as well as in 'live' projects, with both formats aiming at different learning outcomes and varying in complexity depending on their specific pedagogical goal in relation to the student's development process. Hence, we take on a nuanced position in regards to the criticism of architectural design studio education as merely training individual designers who have as their main premise the design of iconic buildings for a wealthy minority far removed from the social realities of everyday life.

We propose to look beyond the opposition of 'live' and 'traditional' forms of design education and to consider both types of architectural design education from a participatory design perspective.<sup>2</sup> Moreover, we see them as two types of 'project-based learning' in which the notion of 'context' in architectural design



education is both enlarged and deepened from 'site' to 'situation'.

Participatory Design aims at the direct involvement of people in all parts of the design process and the technologies that they use. It embraces a diverse collection of principles and practices aimed at making tools, environments, businesses and social institutions more responsive to human needs.<sup>3</sup> The central concern in participatory design is how collaborative design processes can be driven by the participation of different kinds of participants. Hence the question of negotiation is also at the centre of participatory design methodologies and connects them to several forms of 'live' education. This negotiation process implies all sorts of 'risky trade-offs' for both designers and participants that come together around one, in our case: spatial- issue. Participation is 'risky' because it implies many uncertainties about the results of this exchange for both designers and participants. However, these uncertainties are also possibilities for innovation.<sup>4</sup>

To conceptualise the pedagogical shift from 'site' to 'situation' in the architectural design studio, we relate John Dewey's concept of 'moral imagination'.<sup>5</sup> Dewey's learning theory and social activism are often referred to in relation to live projects but are also criticised.<sup>6</sup> Going back to Dewey's concept of moral imagination which he developed in close relation to his aesthetic theory,<sup>7</sup> can bring an interesting vantage point on this discussion.

This shift in the conceptualisation of 'context' in architectural education also resonates with more general descriptions of the design process across the disciplines.<sup>8</sup>

In support of our argumentation, we present two cases. One case from the beginning of architectural education -a design studio project with first year students- and one situated at the end of architectural education with final year students- a participatory design project with and within a local community exploring possible futures concerning a specific spatial issue or conflict. While the former stays within the physical setting of the design studio, the latter entails working on site and involves local actors in all phases of the design process, starting from defining 'critical' sites, stakeholders and programmes to designing and making a built intervention that explores a possible future.

Integrating different forms of live education in our architecture curriculum has confronted us with two major challenges. Firstly: built interventions matter. All participatory projects involve making a central artistic or design project- some form of 'prototyping'.<sup>9</sup> Within the scope of prototyping methods, far-reaching 'enactment'-strategies - e.g. 'building' on location - are acknowledged to play a great role in connecting local actors, communities and policymakers, but also bring a lot of uncertainty about the outcome of the prototyping-process and the impact of the results. This also implies that a designer has to choose a position between a more integrative, service-oriented approach on the one hand and a more subversive approach on the other, that at challenging the status quo perceptions about daily life and to stimulate participants to engage differently in their daily context. This tension is typical for all kinds of social-artistic practices.<sup>10</sup>

Secondly: durable relations matter. Within the curricular programme, it is difficult to establish a long-lasting engagement with local communities and stakeholders within the duration of the student project. Maximising the impact of student work in connecting local actors, communities and policymakers, requires extensive preparation before the project starts as well as extensive care for the relationship with the community after the student project is finished, to maintain a durable relation between the university and the local community and to initiate further actions within that community based upon the results of the student work.

To address these challenges and to stimulate the interaction between different forms of 'live' and 'traditional' architectural design education, we have initiated the 'live lab'. This is a pedagogical platform to experiment with the integration of three types of live education in one participatory trajectory: it combines a design studio project, a participatory design project and a design and build project, dedicated to one and the same spatial issue within a local community.

The first Live Lab-project addresses the re-design and re-appropriation of (historic) 'slow roads' as connectors within the highly dispersed urban structure of the local city of Genk. It tackles the social and spatial issues involved through engaging students, community-based clients and building professionals in (1) imagining possible futures through prototyping in a participatory design project, (2) generating a multitude

of solutions based on the initial prototypes and constraints in design studio work and (3) the technical development and construction of selected designs in a design and build project. Local actors, communities and policymakers are involved as co-producers in every phase throughout the entire duration of the Live Lab-project, which runs for three academic years.

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# Reflections on Architectural Education.

**DANIEL JARY.**

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**DAVID HODGSON AND THOMAS MOORE.**

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## ABSTRACT

This paper introduces the work of students on a joint MArch and Masters level module entitled 'Reflections on Architectural Education'. The module explores innovative approaches to learning and teaching, whilst encouraging students to reflect on their own learning experience. Comparisons are drawn between architectural and non-architectural, UK and international contexts. The module engages students in wider debate about architectural education and ultimately in actively exploring and shaping practice in the School itself. In doing so it asks the students to consider teaching models employed within other disciplines, and the learning which takes place outside the studio.

**KEYWORDS** pedagogy, action research, participation

## Part 1. Reflections on Architectural Education.

*Author: Dan Jary*

### *Context*

Sheffield School of Architecture has an international reputation for innovation in learning and teaching. This has been maintained through a continuous process of critical reflection by both staff and students. The Reflections on Architectural Education module plays an important part in that reflective process, encouraging students to reflect on the nature of architectural education through a critical self-appraisal of their own experience.

The module was originally conceived by Rosie Parnell, building on the findings of the 1996 CUDE project – 'Clients and Users in Design Education'.<sup>1</sup> This recognised the need for architecture students to understand the role of the architect as a team player, and recommended the adoption of a collaborative non-

confrontational approach to learning. This was further developed by Parnell in her research publication 'Knowledge, Skills and Arrogance',<sup>2</sup> and by Rachel Sara in 'the Pink Book', which presents a feminist manifesto for architectural education:

'The new paradigm values qualities traditionally considered as feminine, such as empathy and collaboration, community and evolution, holism and versatility, negotiation and enabling, emotion, experience and responsiveness.'<sup>3</sup>

Having taken over the running of the module this year I have looked to develop the content to address the implications of the new context of higher education in the UK – a neo-liberal context which positions the student as consumer, rather than receiver of education. This has reduced the students' willingness to take responsibility for their own learning, and threatens to inhibit risk taking and creative experimentation. With this in mind the students have been asked to consider

the ongoing RIBA Education Review,<sup>4</sup> and to explore the relationship between architectural education and the profession, and the need for each to inform, shape and challenge the other.

The students enrolled on the module come from a range of different backgrounds, with the MArch students having attended various different institutions in the UK and EU for their undergraduate studies, and the PGT Masters students having done both architectural and non-architectural first degrees in China and Pakistan. This allowed for a valuable sharing of experience across the cohort, with students having been exposed to a wide variety of teaching styles and learning environments.

module map			
	SEMINARS	TUTORIALS	
MEMORY past experience	REFLECTION reading and recording	ACTION teaching innovation	SYNTHESIS written assignment
	STUDIO teaching observation	STUDIO teaching assistance	
semester one		semester two	

Figure 1. Reflections on Architectural Education module structure.

The year started with an exploration of educational theory, and its application to teaching and reviewing techniques used in the architectural design studio. Students were encouraged to relate this to their own learning experiences, and to evaluate the relative success of different teaching models and learning environments.

Further seminars explored particular themes which arose from the initial discussion, which were of particular interest to the students. The first focussed on the future of architectural education, looking at the current context and looking at ideas for change. The second looked at widening participation and the development of an inclusive curriculum.

For each seminar students were given a selection of key texts outlining the theoretical context for the discussion. The students were then divided into small discussion groups, analysing the texts in relation to their own experience before developing ideas for presentation back to the group.

Alongside this exploration of learning and teaching

theory, the students were actively engaged with Year One design studio. During Semester One this involved the observation of studio teaching, while in Semester Two students took an active role in studio tutorials and workshops. To support this teaching experience students were asked to keep a reflective journal, making connections between their experience in studio, their own learning experience, and the theoretical context.

### Action Research

As a key part of the module the students were required to design and implement a piece of action research. Students were asked to identify an issue which they felt needed to be addressed, develop a teaching method which addressed this concern, and to then evaluate the impact of their action.

‘Action research is a name given to a particular way of looking at your practice to check whether it is as you feel it should be.’<sup>5</sup>

Working in groups of two or three, students organised and evaluated a teaching innovation which was then enacted in Year One design studio alongside regular tutorials, workshops and reviews. These action research projects drew on other disciplines, such as fine art practice, and often took place outside the studio, testing alternative physical learning environments, and taking learning into the public realm.

‘action research is a participatory, democratic process concerned with developing practical knowing in the pursuit of worthwhile human purposes...it seeks to bring together action and reflection, theory and practice, in participation with others, in the pursuit of practical solutions to issues of pressing concern to people.’<sup>6</sup>

### Synthesis

The students’ final task was to produce a written assignment which positioned their action research within a wider theoretical context, bringing together both background reading and first-hand experience. The essays were presented in the format of a journal article or conference paper to encourage students to consider how their work might be communicated to a wider audience. The assignments were discussed and peer reviewed prior to final submission to share knowledge and give formative feedback.

The hope is that the action research will inform the theory and practice of our studio teaching and assessment. Two of the students' findings are presented below as Parts 2 and 3 of this paper.

### Conclusions

The module has been successful in helping students reflect on their own learning experiences in education, and in developing an understanding of the interrelationship between architectural education and the profession. For many students it has developed their interest in being involved in architectural education in the future, and hopefully they will go on to become thoughtful and reflective teachers.

The feedback for the module has been very positive:

*'I enjoyed the flexibility in the structure of this module, the input that we as students could have, and open discussions that came out of this module.'*

*'This was probably the most rewarding module I undertook during my year at the SSoA. The theory we read in this module helped me in all the other modules and my studio work.'*

*'I would say that the module has changed the way I think about my architectural training, provokes thoughts to how it could be changed in the future, and may encourage more progressive ways of teaching for future years.'*

## Part 2. Addressing mental health in architectural education

*Author: David Hodgson, student at the University of Sheffield*

### ABSTRACT

The discussion regarding mental health in the UK has never been as publically addressed as it is today. Despite this, the number of university students suffering from mental ill health continues to rise as universities struggle to adapt services to cope with the additional pressures of undertaking a degree that were not present until recent years.<sup>7</sup> These include increasing student debt, risk of unemployment and social media.<sup>8, 9, 10</sup> These issues are exacerbated within architectural education due to the added pressure of the course and its encouragement of long working hours and stressful examination process. Addressing and responding positively to these inherent traits of architectural education has the potential to alleviate mental health related illness and improve wellbeing within the profession as a whole. This study will have a specific focus on review related stress and possible methods to reduce it within architecture schools.

**KEYWORDS** mental health, wellbeing, stress

### Introduction

In response to prior research, this study aims to address issues of mental ill health within architecture

schools. It is widely accepted that reviews are the most stressful element of a student's architectural education and through a combination of research, personal reflection and action research, this study will focus on the pressures students face in the build up to a review.

A recent survey by the Architects journal found that 26% of architecture students have sought help for mental ill health as a direct result of their course.<sup>11</sup> This research is corroborated by a study at the University of Toronto, which found that 61% of architecture students believed that their department was failing to adequately address mental health.<sup>12</sup> These studies sit within a broader context where the demand on UK mental health services has increased by 20% since 2011.<sup>13</sup>

There is a demanding work culture found within architectural education that is not commonly found within other subjects.<sup>14</sup> Inherent traits within architecture schools across the world are accepted as having a detrimental impact on student wellbeing, yet they continue to be viewed as 'rites of passage' by many within the profession.<sup>15</sup> 'All-nighters' combined with anxiety and stress leading up to a review creates a 'pressure cooker of potentially explosive ingredients'.<sup>16</sup> Reviews are widely accepted as highly pressured situations where the culmination of weeks, or possibly months, of work is presented to a jury consisting of tutors, visiting architects and students' peers. Anthony<sup>17</sup> likens some of these to 'hazing ritual[s]' and suggests that review related stress could be detrimental



to the mental health of architecture students.

Action research, involving a first year studio, has been utilised to understand if these issues are prevalent within the current student cohort at the University of Sheffield. The aim of the action research was to discuss with students the causes of stress in relation to reviews and tactics to mitigate it. This resulted in relieving pressure on students by actively addressing a key cause of mental ill health among architecture students.

Improvements to mental health and wellbeing within architectural education will benefit the profession as a whole. Traits found within architecture schools are carried through into practice where architects are expected to show exceptional dedication by working long hours. Project deadlines are an unavoidable consequence of a career in architecture and so equipping current cohorts with the skills needed to manage pressure has the potential to have a positive knock-on effect for the profession.

#### *Review induced stress: The existing situation*

Through the 'Reflections on architectural education' module, as well as my own personal experience, reviews stand out as the most troublesome times for the majority students. Surprisingly, levels of anxiety ahead of reviews seems to remain constant throughout undergraduate and postgraduate cohorts and suggests that changes within the current system are required to improve mental health among the next generation of architects.

Student psychological wellbeing declines throughout university due to a number of factors including the transition from school and the move away from the family home - in most instances for the first time.<sup>18</sup> Research also shows that those undertaking art and design courses are significantly more likely to be treated for mental health related issues in comparison to other subjects.<sup>19</sup> There are high expectations at university compared to the more traditional learning format found within secondary education. Architectural education asks students to learn not only a new subject, which most are unfamiliar with, but also a whole new set of skills in order to convey their ideas.

It is commonly accepted that reviews are the most stress-inducing element of architectural education. In many instances sleepless nights and dedication end with humiliation at the hands of visiting critics, often leaving students confused.<sup>20</sup> Whelan reports that

'the majority of students admitted to regularly pulling all-nighters, skipping meals, forgoing extracurricular social activities, and rarely exercising in order to finish projects on time',<sup>21</sup> all of which have proven links to mental ill health.

This previous research highlights the need for change. Many have written on the review process and future possibilities, however it is my belief that its place within architectural education is essential in properly assessing students as well as preparing them for practice, where it is common to pitch for work through competition and interview. Thus, the change needed must come in the form of preparation. Adequately preparing students for reviews in regards to expectations and time management will be instrumental in the wellbeing of future architects and alleviating review related stress would be tackling the key issue at the source.

#### *Methodology*

As part of this study, action research was undertaken with a group of first year students. This came in the form of a workshop, aimed at discussing and addressing pressures the students face in the build up to a review.

The workshop addressed the following key aims:

- Understanding the pressures associated with architectural education with a specific focus on the review process;
- Understanding methods of dealing with these pressures that students currently undertake and possible methods for future use;
- Preparing students for a forthcoming review with the focus on understanding expectations and how to meet them.

Working with the same set of first year students we ran two workshops. Workshop 1, a week prior to reviews, was aimed at preparation and discussion. Workshop 2, conducted the week following reviews, reflected on both Workshop 1, the reviews and discussed future improvements.

Both workshops provided qualitative data in the form of anecdotes and opinion as well as quantitative data through a number of short surveys. An important aspect of how the workshops were designed was to facilitate discussion between students. This gave participants time to reflect on their education and discuss strategies for dealing with stress and

preparation moving forward.

All students were made aware that the workshops were voluntary and any information they shared would be kept anonymous.

### Workshop 1

To ensure manageable group sizes the 29 participants were split into two groups – one in the afternoon and one in the morning. This enabled us to hold the workshop in a more informal setting that was away from the studio and ensured that we could have a whole group discussion. Workshop 1 lasted approximately 1 hour and involved the following three tasks:

**Task 1:** In small groups students discussed ‘reasons for stress before a review’. They then wrote key points as part of a spider diagram for discussion with the wider group. Following a brief comparison between the three groups, the students expanded their spider diagram to include strategies for mitigating the issues they had previously recorded. Completed spider diagrams can be found within the appendix.

This task was aimed at understanding if students experience similar issues in the build up to a review as well as sharing possible methods for alleviating stress.

**Task 2:** In the same sub-groups, students were given a set of 9 images for two different buildings. They were asked to analyse the images and answer 10 questions in order to understand where information was incomplete. One of the projects was more comprehensive than the other and prompted students to think about representation techniques.

**Task 3:** Using the same 10 questions from Task 2, students were asked to think about their individual design projects. The task was primarily focussed on helping students structure their verbal presentation for a review that would succinctly describe their project in full.

**Whole group discussion:** Throughout Workshop 1 each subgroup presented their findings from each task as part of a whole group discussion.

### Workshop 2

The second workshop was held the week following interim reviews and was an informal discussion about the impact of Workshop 1 and how the reviews went. This was useful to understand where Workshop 1 could be improved in future. A final survey was carried out to

compare data against the surveys of Workshop 1.

### Evaluation

Data gathered from both workshops supports the notion of inherent traits within architectural education. The main reasons for stress and anxiety ahead of a review, recorded by the students, were as follows:

- Presenting work to others and conveying ideas successfully;
- Fear of getting negative feedback;
- Lack of sleep;
- Trying to accommodate other activities not associated with architecture;
- Making last minute changes;
- Not confident about the quality or quantity of work;
- Never feeling finished;
- Clashing deadlines;
- Poor time management;
- Comparing work to peers;
- Constructing concepts for the project;
- Lack of understanding regarding what the tutors want to see;
- Mixed messages from different tutors;
- Working hard doesn’t mean it will be good.

These findings highlight a number of traits that have been synonymous with architectural education for decades.<sup>22</sup> Reasons such as lack of sleep and inability to accommodate other non-studio related activities suggests that as early as first year, students are exhibiting behaviour which can be linked to mental ill health.

Students also explained that tutors were not explicit enough in setting out what they should aim to achieve in preparation for a review - leading to ambiguity and anxiety ahead of the presentation. Workshop 1 aimed to address this by looking at strategies for conveying design intent as part of a verbal presentation in a review. Students found this element of the workshop useful with 71% using the form from Task 3 to structure their interim review presentations.

### Results

Surveys taken during both workshops comprehend the psychological mind-set of the participating students as well as the impact of the workshops on their levels of stress and preparation ahead of a review.

- 65% of participants felt more confident about

presenting their work following Workshop 1.

- 45% of participants felt more confident about what they were going to achieve before the review the following week.
- 35% felt less stressed about the review following Workshop 1. However, 17% felt more stressed following the workshop.
- 41% of students felt more confident about managing their time in order to achieve what is expected for the review.
- 48% felt they knew how to better mitigate stress ahead of a review following Workshop 1.
- 90% of students felt the session helped in preparation for the review.
- 71% used the 10-point checklist for their review that was used in Tasks 2 and 3 of Workshop 1.
- 85% of participants felt there should be more guidance from tutors in preparation for the review.

The results listed above support the idea of incorporating similar workshops as part of the undergraduate curriculum. The workshops provided students with time to reflect and discuss stress related issues and how to overcome them as part of a group. The results also support the need to address mental health within architectural education by supporting students in negotiating reviews and review induced stress.

The majority of participants recorded a decrease in levels of stress following the workshop as well as an increase in confidence in presenting their work. Moreover, 90% of students found the session helpful in preparation for the review, which highlights that simple tactics, such as group discussion, have the ability to support students throughout their architectural education. The implementation of such methods within architecture schools has the potential to support and encourage wellbeing amongst students and have a catalytic effect on the mental health of future practitioners.

#### *Role of the researchers*

As students within the same school of architecture as the participants, we were more likely to understand the pressures students are currently facing as part of the course. Moreover, our status as students and not staff is likely to have created an environment more conducive of open discussion and therefore the data we have collected can be deemed as more reliable.

However, the participant's knowledge that we were undertaking the study as part of our architectural education meant that some students might have viewed the workshops as more beneficial to us than to them. A method for mitigating this issue moving forward would be to set the workshops within the participant's curriculum and not that of the researchers'.

A conscious decision to co-lead the workshops by a male and female researcher was agreed to encourage all gender participation.

#### *Limitations*

By choosing to work with one studio a mix of gender, race and backgrounds were represented. However, as all participants were under the supervision of the same tutor it could be argued that other tutors were preparing their students more successfully for reviews, therefore the response from this group may not be an accurate representation of the school. In order to improve this it would be good to survey an entire year group - or a mix of year groups.

Moreover, the qualitative data collected might not represent all students, as particularly shy participants may not have felt comfortable voicing their opinions during the group discussions. This was mitigated through anonymous survey feedback, however this should be considered when progressing with this line of research.

#### *Education and profession*

'Improving the academic environment has the ability to benefit the profession as a whole'.<sup>23</sup>

The intrinsic link between architectural education and practice means that positive change within schools has the ability to benefit the profession as a whole. Championing good health from the beginning of an architect's education has the potential to encourage more students to complete the RIBA three-part qualification. This in turn will enrich and diversify what is currently seen as a white-male dominated profession.

The 24-hour work culture among architects continues beyond education and into practice suggesting that architects are 'ignoring the need to strike a work-life balance'.<sup>24</sup> Neglecting other activities, such as physical exercise, can be linked to mental ill health and incorporating architecture as part of a balanced lifestyle has the potential to improve health

among professionals.<sup>25</sup> This highlights the need for change within architectural education in order to champion and encourage wellbeing throughout the profession.

Guiding students through the review process during their first year has the potential to better prepare them for a career in architecture. The action research undertaken as part of this study highlights the appetite for such interventions and the possibility of such measures to alleviate stress and anxiety ahead of reviews. The review process centres on the individual. In reality this is a rare occurrence and the majority of architects work as part of a team. This does not diminish the role of the review within an educational setting but suggests the possibility of encouraging studios to work as teams in preparation for a review. This reflects the workings of practice where a team will work on a pitch that the project architect will ultimately present.

### *Conclusion*

This study puts forward the possibility for change within architectural education. It does not argue the case for the abolition of reviews but proposes that educators do more to prepare students for the most stressful element of their education. The action research undertaken highlights the simple measures that could be implemented to bring about change -

with the anticipation that it could be a catalyst for improved wellbeing throughout the profession. If adopted by tutors as part of the studio timetable, it is possible to nurture students through the first few years of their careers by providing support throughout their education and into practice. This will also improve the usefulness of reviews to students instead of it being seen as a process to get through as quickly and smoothly as possible.

Moving forward and building upon this research, it would be interesting to carry out a similar study within each British school of architecture. This would facilitate a comparison between universities and in turn build an understanding of where course related mental health issues arise from on a school-by-school basis. This research focuses primarily on the review, yet the other inherent traits described in this study could be addressed independently in order to increase the possibility of improving wellbeing within architectural education.

More must be done to address the inherent traits of architectural education in order to better the health of the profession. This must start with those commencing their architectural education so that they can move through in to practice with the skill set to deal with high-pressured situations and deadlines.

Championing mental health will benefit the entire profession.

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### **Part 3. Design studio as platform for creative play**

*Author: Thomas Moore, student at the University of Sheffield.*

Upon observing a workshop which asked a crop of first year architecture students to embark on their first endeavour of designing a building, I recognised an all too familiar uncertainty. Armed with the freshly learned skills deemed necessary to the production of Architecture, the students methodically began to produce plans, sections and models, tentatively experimenting with their newly adopted 'language' of design. "Is there any part of this plan which arose accidentally?" asks the tutor as a student responds with a quizzical glance. Thus proceeds a long rhetoric about the teachings of Nietzsche<sup>26</sup> and his concept of

the Apollonian and the Dionysian, Greek gods of the rational and irrational respectively.

I offer this anecdote not as a means to criticise the interaction between student and mentor, but to question what has led the student towards beginning their first opportunity to design using a purely rational (or Apollonian) process. What does this say about the conditioning of students entering design courses at higher education level and what does this say about the students' architectural education up to that point?

John Gatto<sup>27</sup> argues that the main task facing teachers in compulsory education is not to use their expertise to educate children in their chosen subject area, but to deliver a 'hidden curriculum' in order to perpetuate the existing neo-liberal status quo. Through defined classes based on ability, students are taught

to respect their class position, “learning to envy and fear the better classes and to have contempt for the dumb.” Students are taught emotional and intellectual dependency, removing individuality and reinforcing the idea that good people wait for an expert to tell them what to do. This system Gatto claims, “deprives people forever of finding the centre of their own special genius”, instead asked to indulge in the information afforded to them by their superiors.

This relationship then, conditions the student as what Ivan Illich<sup>28</sup> defines as ‘consumer pupils’. If students attend lessons provided to them by the state, they will be rewarded with educational success. But educational success does not necessarily equate to more learning, merely the earning of credentials which allow them to climb the rungs of society. So, this equates to cohorts of architecture students who have been conditioned as passive consumers relying on the expertise of their superiors to provide them with the formula to achieve the credentials of ‘Architect’.

The system of compulsory education then creates what Pierre Bourdieu calls a *Habitus*,<sup>29</sup> a collective way of thinking which has emerged through social and cultural processes. Students then take this view of education with them to university, viewing tutors as bearers of knowledge which can be consumed. In a field such as architecture, where according to Donald Schön,<sup>30</sup> the knowledge is tacit and manifests in action, ‘consumer pupils’ become increasingly frustrated with a lack of definitive answers. Further to this, the increase of university fees in 2012 has served to add to the neo liberal view of higher education. An increased interest in employability has put pressure on architecture schools to become more vocational, teaching skills best suited to bolster student CVs. Add to this a student desire to ‘get it right’ and find the ‘formula to the right answer’<sup>31</sup> and students and schools are increasingly becoming more risk averse.

Ironically however, it has been argued that this is in detriment to both the future of architecture schools, and the employability of its students. Wright<sup>32</sup> argues that architecture could strengthen its position in the academic world by becoming ‘suitable as a broad skills training for any number of future professions’, but that in order to do this, the RIBA and ARB must allow architectural education to become less professionally bound, particularly at Part 1 level. Furthermore, the Building Futures report ‘The Future for Architects’,<sup>33</sup>

suggests that the changing nature of the architectural profession has meant that the ‘inflexible nature of the label architect’ is holding many small architecture practices back from the type of work they are able to do. If architectural education were to become more vocational then, in light of the increase in fees, the profession could find itself lacking the flexibility to adapt to the ‘the enormous state of flux’<sup>34</sup> which it finds itself in.

However, as a distinct socio cultural sub-group, the idea of the *habitus* can be applied to the architectural profession itself.<sup>35</sup> With its own system of embodied dispositions, and arguably, its own ‘hidden curriculum’ to reinforce them. With an implicit intellectual and emotional dependency founded in schooling, and devoid of an explicit knowledge to be received, students turn to the architectural *habitus* and its cultural customs as a way of ‘becoming architect’. From my own experience, this was best summarised when crossing paths with an undergraduate in fresh black polo neck, physically shaking at the pressure of being accepted as ‘Architect’ in his upcoming review. In practice, this has led to a homogeneity of the architect, perceived by the public as a “self-regarding elite who don’t care about the buildings and styles people really want.”<sup>36</sup>

So how then can architectural education seek to overcome the risk averse intake of ‘consumer pupils’ whilst celebrating the background of students and encouraging autonomy? The action research undertaken sought to explore whether the current design studio *habitus* is perpetuating these issues, and sought to return back to the idea of the Dionysian, positioning the design studio as a space of play in which the individual creative thinking of students could be explored and developed.

### Action Research

“Once one steps outside what’s been thought before, once one ventures outside what’s familiar and reassuring, once one has to invent new concepts for unknown lands then methods and moral systems break down and thinking becomes, as Foucault puts it, a ‘perilous act’ a violence, whose first victim is oneself”.<sup>37</sup>

The action research took a studio of 1st year undergraduate architecture students from the University of Sheffield and attempted to redefine the design process as a system of playful exploration in the



context of a morning long workshop. Subverting the idea of a pre-determined end product which the tutor asks the students to produce, we used the concept of the platform, providing a starting point from which the students could venture outwards. This platform took the form of a mark making exercise, using wind to create site specific drawings. This was used as a way of dis-inhibiting the students from the difficulty of the blank piece of paper, but also to position the architectural project as a process of what Donald Schön calls ‘reflection in action’ and ‘reflection on action’.<sup>38</sup> As he states “there is nothing in common sense to make us say that the know-how consists in rules or plans which we entertain in the mind prior to action”.

Perhaps ironically, upon reflection the focus of this part of the workshop became too instrumental, focusing on achieving the product of marks on a page which could be used later on. We received feedback from the students that there was a great deal of confusion at this point in the day. However, this might not be totally undesirable, as it could be a sign of students entering unfamiliar design territory. However, a more active engagement with the students’ site could have proved not only more beneficial to the students’ projects, but also to a breaking down of initial scepticism of the students. It has been noted by hooks<sup>39</sup> that there appears to be an inherent ‘resistance’ in students towards new pedagogical approaches, which we found manifested in a lack of engagement with this initial task.

Upon returning to the studio, the workshop borrowed from arts school pedagogies by asking students to produce an individual and subjective response to the initial marks made on site, based on a theme of domesticity in response to their brief to design a home. Due to the deliberately open ended nature of the task, not wanting to dictate outcomes, the tutor had expressed concerns that the students would have “no idea what they are expected to do”. Indeed, having been encultured into a prior education system which is risk (and play) averse, the introduction of play into the learning environment has the potential to be inhibiting.<sup>40</sup> As researchers we had predicted an initial anxiety to overcoming the creative leap and to combat this had decided to attempt to “diminish the power of us as tutors”,<sup>41</sup> by completing the task alongside the students. Admittedly, the power dynamic in a (masters) student to (undergraduate) student dynamic are much



Figure 2. Students struggling to engage with a mark making exercise conducted on the site. General bewilderment ensues. (Author’s own)

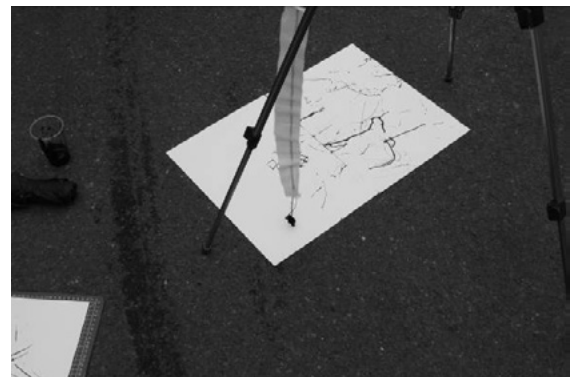


Figure 3. Wind directed mark making in action. (Author’s own)

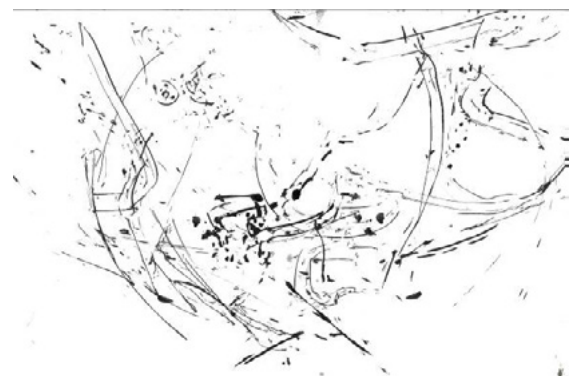


Figure 4. Results of 5 minute mark making. (Author’s own)

different to a tutor student relationship which is a limitation to our research. It was ultimately hard to tell what effect this dynamic had on overcoming anxiety or resistance to unconventional methods – a couple of outspoken students expressed an initial unease and one student in particular offered complete resistance. However, as researchers we were surprised at how quickly most students took to the task.

The results of the exercise proved incredibly diverse, with some students producing narrative based drawings, some developing abstract form and some creating overtly spatial interpretations of the initial marks. Notably, students have conducted the task in the way they have found to be most interesting and enjoyable in attempt to counteract the idea of architectural education training students to ‘think like an architect’.<sup>42</sup> By not dictating the approach to be taken, the workshop was able to celebrate the students’ diversity, giving them the autonomy to explore and reflect on their own methods. However, it is important to note here that the workshop format, free from the pressures of formal assessment, allows students to both relieve some of the anxiety associated with design but also to feel free to explore alternative ways of doing things. A large proportion of students gave feedback that they would either ‘probably’ or ‘definitely’ use the approach again in the future, however, it is impossible to say whether playful methodologies would manifest in the context of assessed project work.

The workshop then asked students to switch their drawings with one of their peers, which would then be translated from a subjective drawing into a more objective model. The purpose of this switch was to allow students an appreciation of their peers’ creativity, and to see the value in a variety of different approaches. It also questions the idea of authorship in the design process. It has been argued that architectural education teaches students to be “arrogant, poor listeners”,<sup>43</sup> in a profession which collaborates with an increasing number of disciplines, it is important that students see the value in involving a network of actors in design processes.

The students found this task slightly more difficult than the previous, perhaps because the starting point involved existing ideas to be interpreted, rather than from abstraction, an important skill to develop when Architects work with clients. One of the main teaching aims of the workshop was to show the generative

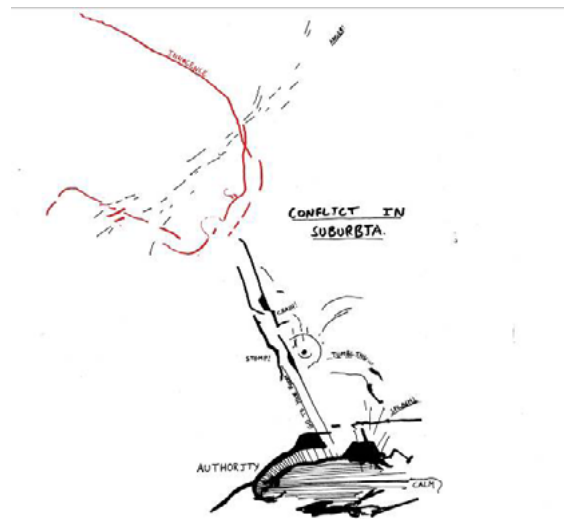


Figure 5. Conflict in Suburbia. The author's (MARCH student) subjective drawing response. Portraying a domestic situation. (Author's own)



Figure 6. "Is it weird that you'd rather sleep in a cave than in a cell" – A 1st year's subjective drawing response. A narrative based approach. (Author's own)

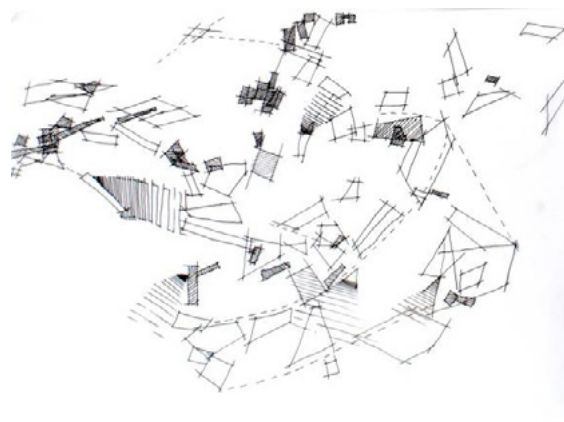


Figure 7. Untitled. Another 1st year's subjective drawing response. Developing a language between journeying (dashed line), solid (filled shape) and void (empty shape). (Author's own)

nature of drawings and models, of reflective practice in contrast to thinking before 'doing'. The most successful students, were incredibly reflective, producing models which they later added and removed from in order to move to the next iteration. Other students first modelled a literal translation of their drawing, then sought to layer on top and improve with their own ideas, showing a strong design process. However, one student in particular, struggled entirely to model anything which couldn't first be comprehended, choosing to model the building we were sat in. Interestingly, this student remarked that they would like to undertake the workshop again in the future, reflecting that their own inhibitions had held them back the first time around. Here highlights a dangerous territory for the research, at what point should we value the student's embedded understanding of architecture received from previous experience and at what point should educators challenge pre-conceptions?

All in all, the workshop proved a success, all students suggested that they had recognised a difference when compared to their experience of architectural experience thus far, with one particularly enthusiastic participant remarking that they had "felt more comfortable than in any other workshops undertaken." 14 out of 23 students suggested they preferred this approach with a further 7 saying they were unsure. All students suggested that they had enjoyed the session and interestingly, when compared with their previous experience, far fewer students had experienced anxiety whilst designing.

### Reflection

Donald Schön<sup>44</sup> argues we can identify a generic design process which underlies architectural processes. However, that this process can be referred to as a 'conversation with the situation', rather than a closed circuit of fixed steps. The job of the architect then, relies not on the specific skills he has been given to complete his task, but on his ability to 'respond to the situation's back talk' and constantly reflect on how this should be approached. In this context, Architectural education must look to become more fluid, not static, in response to the changing climate. By situating the design studio as an arena of play, of process rather than product, and borrowing from a variety of disciplines, students are encouraged not to remain passive consumers who perform tasks set to them, but develop



Figure 8. Objective response models from two 1st year students (top) and myself (bottom).

creative thinkers who are proactively responsive to change.

However, it is important to note that a student's ability to respond to diverse situations also requires a diverse education. Furthermore, given the contrasting responses of students to a more artistic pedagogic process it would be wrong to argue for a 'one size fits all' approach to the education of architects, which would only serve to perpetuate a new homogenous 'habitus' for the profession.

Reflecting on my own experience, I have found my architectural education to be most fruitful when the boundaries are blurred with other disciplines, which has helped to shape a very personal approach to architectural design. It is this freedom of exploration which must be encouraged in Architecture schools, but which is most at threat from the 'consumerization' of pupils.

Indeed this also bears relation to my experience of practice when compared with the RIBA's part 3 criteria<sup>45</sup> of 'autonomous working'. The 'hidden curriculum' of the design student adhering to the specific needs of the design tutor seemingly manifests in practice as rigid hierarchical structures of leader delegating specific roles to subordinates, applying a predetermined formula to the process of design. This is in stark contrast to a network of autonomous collaborators which the RIBA seem to promote. For architectural education to breed more autonomous individuals, students must be encouraged to explore their own methods of architectural or interdisciplinary production. It might also benefit from a shift in the relations of power between student and tutor, as manifest in the action research as tutor working alongside students. By positioning the studio as a place of exploration, the diversity of students can be naturally encouraged, positioning the architectural practice as a fluid heterogeneous network of autonomous collaborators.

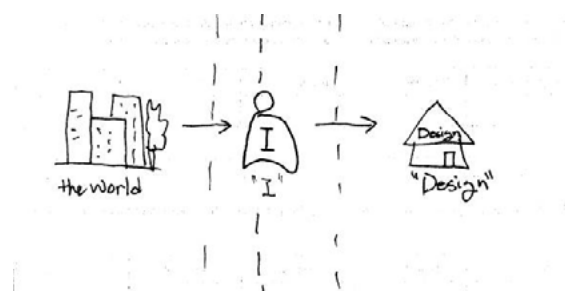


Figure 9. A surprising response when asking students to draw the design process used in the workshop. Surprising because it highlights a conflict between promoting diversity and promoting collaboration. I argue if education were to train autonomous students who recognise the benefits of diversity, then architects can become much better collaborators.

## Conclusion

In conclusion, there is a danger amongst architecture schools to, like compulsory schooling, 'dumb down' programs in order to better position themselves and their students in the market place. I have argued that this will have the opposite effect and that students need to be 'de-schooled' upon arrival at university whilst not indoctrinating a hidden curriculum or habitus of white, male middle class domination. The action research has found that students respond well to more playful forms of pedagogy and despite current practice, some students prefer more open ended approaches to be preferable to more prescriptive or didactic forms of teaching. Further implementation of this form of playful, interdisciplinary pedagogical practice, could have positive effects on the future of the architectural profession. Generating a more autonomous and adaptable workforce. However, the ARB and RIBA must recognise this need for fluidity if schools are to be allowed to step away from a more professionally centred, vocational approach.



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# Performing the Plan. Building a Proposition for Future Activities.

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## **ABSTRACT**

Approaching the Urban Design curriculum diagrammatically allows research and teaching staff, students and any other related and involved actors to understand and negotiate their respective requirements and needs for methods, tools and theories according to specific situations. Metaphorically, our Urban Design programme could be described as a provocation: rather than producing proposals and final designs, the actual ways of knowledge production and forms of knowledge mediation are scrutinised, unpacked and re-assembled so as to enable the articulation of questions and motifs. The summer school 'Building a Proposition for Future Activities' (September 2016) serves to illustrate this curricular strategy that works inter- and transdisciplinary without denying disciplinary backgrounds.

In the context of the so-called 'refugee crisis' and an increasing shortage of affordable housing in Hamburg and Germany more generally, the Urban Design team collaborated with a civil society initiative (welcoming refugees in the neighbourhood) and the city's service providers for refugee housing in order to plan and build a community building in a planned refugee accommodation plus social housing project. The summer school provides succinct insights into each step of the whole curriculums' diagrammatical structure, and this is what the paper presentation will examine in more detail.

The distinctive phases or didactic modes 'Coming into play,' 'How to play,' 'Play' and 'Understanding the play' will be reviewed with a view to outline how design-build education and inter-disciplinary collaboration with external partners takes place and is operationalised as part of the curriculum. Our approach of creating a Project Archaeology retrospectively but also during the actual project enables ongoing reflection and documentation as well as re-assembling the individual aspects and decisions in a matrix-like structure. The didactic modes of this matrix (coming into play, how to play, play and understanding the play) are crucial to the practical implementation of the Urban Design curriculum and are continuously developed in order to keep the process open. This openness however is not without structure. A minimal structure is provided by what we call Takes so as to order theoretical considerations, practical experiences and reflections. Serial fragmentation, de-assembling, cataloguing and indexing are employed so as to pay attention to immanent potentialities and account for contingency, which is crucial for real-life and contextual understanding of learning and practice in Urban Design.

The conference's theme 'Architecture Connects' provides a suitable perspective through which to review the collaboration of a range of diverse actors (neighbours, international students from different disciplinary backgrounds, refugees, official urban planners and city institutions, Urban Design and Architecture professionals, industrial school students) on different levels. Our diagrammatical approach allows scrutinising the respective and contextually differing assemblages of discursive, disciplinary and socio-political dispositifs and can contribute to educating not only architects in developing broader perspectives.

**KEYWORDS** transcurricular, design-build, propositionals, urban design

### Part 1. Curriculum vs. Didactics?

As Hopmann and Riquarts<sup>1</sup> have laid out in their paper 'Didaktik und/oder Curriculum. Grundprobleme einer international vergleichenden Didaktik' ('Didactics and/or Curriculum. Basic problems of an internationally comparative didactics'), the terms 'didactics' and 'curriculum' originate in two different cultural backgrounds. The first is located in the European history of education, while the second emerged in the Anglo-Saxon realm. Their article explains that the dichotomy between didactics and curriculum is not a new topic, but has been an issue ever since the late 19th century. The contestation resulted in what Reich<sup>2</sup> calls *Begriffsverwirrung* or 'confusion of terms', in which nobody is able to argue whether didactics is a part of the curriculum or, vice versa, whether the curriculum is part of didactics. While this confusion unquestionably remains, we consider curriculum and didactics as dialectically interwoven, with none functioning without the other. Hopmann and Riquarts<sup>3</sup> state that curriculum research in the US acted as producer of teaching sequences of educational material, school books and so on. Educational research had the task to analyse the teaching processes. While the innovation and implementation studies in the 1970s positioned a critique of curriculum research, they still followed the ideology that instruction can be tackled scientifically by planning. On the other hand, a new critique of the psychologically oriented pedagogy emerged since the 1980s and 1990s. It is a critique oriented towards the practice of learning as for example teacher thinking or the concept of the reflective practitioner developed by Donald Schön<sup>4</sup>.

Against this background we propose the following preliminary definition of the notions curriculum and didactics as working hypothesis. Curriculum is the organisational structure and progression of the teaching process, while didactics is the concept underlying learning and teaching content and form. In contrast to devising a set plan of teaching specific content, we employ the strategy of the curriculum as open form with minimal structure so that students can pursue their motifs and questions as they go along. This is not to say that we renounce didactics, on the contrary: conceptually framed by Takes and research practice, our didactic approach is thematically aligned with the progression of the semester and builds on the emerging modes of realisation.

### *On Curriculum*

We define curriculum as the organisational structure and form of teaching. In this respect the curriculum is a socio-material arrangement of didactic interactions. Curricula face two basic challenges: one the hand they operate as disciplinary transmission tools that mediate societal and epistemological norms, while on the other, they provide the medium that should be able to react to the demands and needs of individual students. Consequently it does not come as a surprise that given the internationalisation of education the curriculum has gained importance as a regulation instrument. It is via the curriculum that national agencies of education try to take control over and enhance the learning performance of students.<sup>5</sup> At the same time the curriculum dispositif – the semantic notion of what is when to be taught and studied – not only functions as a growing list of records that determines educational value and serves as distribution mechanism, but also as receptacle for unemployed or to be unemployed people. The curriculum does not only define what students should learn, but also in which spatial and temporal settings they should do so. As Acedo and Hughes have laid out, to ensure theoretical coherence and practical applicability a new notion has been coined: curriculum design. Nonetheless, Marope<sup>6</sup> has claimed that there seems to be no general consensus on the criteria of curricular arrangements and settings. However, there is general agreement that a curriculum is a dynamic entity that is more than a collection of teaching units and knowledge forms. Recently, a more relational understanding of different factors emerges, such as spatial arrangements, material conditions and the relationships between teachers and students.<sup>7</sup> We can speak of an organisational design that integrates the interplay between the different elements and aspects of the curriculum. It has to mediate between internal structures and theories of the structure and three external factors:

1. The standardisation processes in the education system on a national and / or international scale.
2. The open or hidden curricula on the institutional scale.
3. The conditions of the real practices outside the institution on a national and / or international scale.

What makes curriculum design even more

complex is the fact that in (post-)modern societies, norms, values and causalities are not linear, but rather permanently under pressure of contestation. This situation asks for curricula that enable multi-perspective approaches, while at the same time providing as many objective and research-based framings and principles as necessary.

### *Curriculum research*

In light of the above we consider the present paper as a specific form of curriculum research. It is an experiment in that it constitutes a design of research that implements its own research framings and principles to analyse its processes.

Thinking about curriculum research or researching teaching and learning practices in the university one can observe a parallel movement of curriculum development and educational research. Educational research is considered to be a part of scientific research and thus belongs to the production of knowledge. Curriculum development, on the other hand, as we experience it on a daily basis is regarded from the outside not as production of knowledge, but only as a production of instructional materials and plans. What interests us is, firstly, what could be the connection between the production of knowledge in research and in teaching and, secondly, how can the design of teaching and the work carried out through teaching be valued as research? Conventionally the knowledge that one creates during curriculum development is taken for granted. It is regarded as a practice rather than theory. Neither explicated nor published – besides abstract and simplified organigrams and short description texts of seminars – it is unavailable to the educational community. Knowledge produced as research in the scientific realm is valued as scientific research because it is known for putting forward reliable, self-correcting, documented and accessible data.

This complex constellation is further complicated by one particular notion that is taken for granted in the curriculum discussion: the notion of design. The argument is as follows: when considering that curriculum development not only tackles what is, but what could be part of its content, the design process itself is a question of research. This kind of design research is confronted by two logics:

1. The structuring and engineering of a learning process.

2. The development and establishment of a theoretical framework.

We call the first: curriculum and the second: didactics. It is in respect to this understanding of curriculum and didactics that the M.Sc. programme Urban Design unfolds in a fourfold topological layering of what can be called design science and science of design in the spatial sciences:

1. Knowledge produced through curriculum design.
2. The placing of this knowledge within a scientific research discourse.
3. Knowledge produced through design carried out during the curriculum in the interplay of lecturers and students.
4. The placing of this knowledge within a scientific research discourse.

The structure of this topological field and its complexity lead us to abstain from a single understanding of the curriculum. Rather, we suggest a case-based form of what we call dynamic problematisation or motif-based learning. This approach is closely connected to the experiential approach to pedagogy put forward by Dewey<sup>8</sup> and later put into practice and curriculum at the Black Mountain College (1933-1957).

One has to take into account that the above sketched topology does not take place in a neutral space. As Latour<sup>9</sup> has pointed out, research and even more so the whole academic sector has a social and political dimension. Researchers as well as lecturers depend economically on the support of governmental agencies and institutions. In consequence, the success of their work is determined by the visibility and acceptance of research issues, studies and results in knowledge cultures and regimes. Knowledge production is by no means free from sociohistorical contexts, cultural backgrounds, values, controversies, politics, competition and status hierarchies. To put it bluntly: That research and education were free-floating in a universal realm is a myth. Knowledge is mediated by and simultaneously mediating power structures. Producers of knowledge encounter and constitute a highly contested dispositif of institutions, infrastructures and theoretical frameworks. This dispositif is characterised by constant struggles and negotiations about what knowledge is and what should be considered as and filed under the category of knowledge. It is also contested what categories

knowledge consists of, for example what should and what should not be regarded as research, what should and what should not be regarded as teaching and also drawing the dividing line between research and teaching, or even more precisely, declaring that teaching is not research and vice versa. We should add that the notion of design is actually on the verge of entering and defining the dispositif of knowledge.

In this sense, any knowledge depends on what we could call an aesthetic or discursive regime of visibility and sensibility in which the forms of the appearance of knowledge are designed, sanctioned, censored and/or legitimated. If an expression of knowledge is eligible for being part of a discourse it is at the same time governed by its aesthetic regime. There is no knowledge without the aesthetic practices of its designing. There is no knowledge without the discursive practice of its positioning in a topology of words and things. Discursive and aesthetic structures have a framing function. They determine what is part of a sensible field and – even more importantly – what is not. Derrida<sup>10</sup> has indicated that articulations of knowledge cannot flee from discourse because they use its language in order to be articulated. Yet Derrida also insisted on the fact that discourse is not a closed form. Its structures are open to repositioning and transformation. This also holds true not only for a regime of words or propositions but also for a regime of aesthetic utterances. But in real and concrete politics it may take a long time until a transformation and aesthetic field practically starts to affect the checks and balances of an institutional level of scientific research that are essentially supporting as well as setting into motion the curriculum. How discourses on education are shaped by economic, political and cultural differences can be seen in the difference between the Anglo-Saxon and the European realms of research and teaching. In the Anglo-Saxon realm, it is the increase of tuition fees that regulates access to academic education. In case they have no bursary, students are economically highly indebted when they, finally, begin to generate income. The European universities still mostly offer free education, but their curriculum is more and more dependent on ever changing state funding policies and evaluation processes (third party financing). In both systems, one can register a tendency of universities towards an entrepreneurial understanding of their own role, which results in market orientation, a tendency to

invest in struggles for positioning themselves within a competition over resources and visibility in rankings. This leads to a situation where pedagogical claims clash with (mostly hidden) political agendas, their divisive powers always putting collaborative efforts on the part of teaching staff at risk.

#### *Curriculum research – research as curriculum*

Rather than considering curriculum research as limited to research-to-practice strategies, we conversely regard it as interaction between theory, practice and policy. Being restricted to a fixed set of goals, a model limited to research-to-practice strategies would not be capable of changing goals in the content area nor capable of reflecting policy conditions.

We thus propose a framework within which a constant interplay between practice and theory becomes a research issue as to how knowledge is designed and which knowledge is ingrained in the design process and how it is implemented in the policy process. We strive for documenting the form, the structure, the methodological and conceptual frame of our curriculum as well as its integrative force and interdisciplinary nature.

The integrative effects take place on two levels: firstly, through the integration of different disciplinary backgrounds in a special structure of a curriculum setting. This setting is based on a specific distribution of themes, teaching, project work and reflection sessions. Secondly, it integrates the design process itself into a knowledge form. This is achieved by documenting the design process, and by checking the decisions, motifs, reporting the procedures and a permanent reshuffling of the gathered material in group work.

As a research project in itself, such documentations require a common language so that the connections between curriculum development and the research dimension can emerge. We do not regard Urban Design as a method but as framework, a dispositif that creates remixes of methods and methodologies. The task of this relational approach to teaching, research and design is to summarise, establish, maintain and evaluate the positions of and relations between the curriculum and research. The goal is to design a framework for understanding the criteria in developing and selecting curricula, and the potential for curriculum development and evaluation. The intention is to build



a coherent scientific knowledge base not as a closed but as an open form, structured by the progression and modulation of the curriculum itself.

## Part 2. Towards Trans-Curricular Project Work

The second part of the paper follows one issue or motif through different form(at)s in research, teaching and practice: Building a Proposition for Future Activities. In order to understand the moving trajectories, we start with a brief introduction to our Urban Design curriculum.

### *The Urban Design Curriculum at the University for the Built Environment and Metropolitan Development (HCU)*

The Urban Design curriculum is composed of three pillars (vertical structure) and the overarching Urban Design Project (horizontal structure). The three pillars—Urban Territories (methodology), Transformations (theory), and Methods, Tools, and Theory (MTT) classes (electives)—support and feed into the Urban Design Project (UDP). Whereas the first two semesters are tightly structured with presentations, input, and research, students' freedom of choice increases greatly in the third and especially fourth semester towards working with an open form, when the master's thesis replaces the UDP. The two outer pillars—Urban Territories and Transformations—and the overarching UDP are the core courses offered by the research and teaching program, whereas Methods, Tools, and Theory (MTT) are electives that students chose from the university-wide course offer. Framed each year by an annual theme, the core courses offer distinctive yet interrelated perspectives on research and design, methodology and research techniques, and discourse and theory.

Urban Territories engages with the practical contestation and application of methods from ethnography, cartography and mental maps, participatory observation, interviews, Grounded Theory, situational analysis, and Actor-Network Theory. Students develop and test individual research questions and motifs, then gather and work with their own data in order to go through the research process step by step with a particular focus on the actual methodical doing-ness within their methodological framework.

Transformations explores histories and theories of cities and urbanisation since the nineteenth century from an integrated perspective. It introduces key positions and debates in urban theory that are conceptualising the urban. Key phases of modern urban design and planning are reflected in terms of their linkages to wider processes of capitalist urbanisation, formations of state power, social struggle, and cultural change.

The Urban Design Project (UDP) offers space for experimentation and reflection and allows students to go in depth and unfold their own research and practice techniques and strategies. Students work in groups of three or four. The aim of this area of the Urban Design curriculum is to apprehend and assemble an iterative research and design process that enables continuous reflection throughout the process. The UDP acquaints students with workflows and diagrammatical perspectives of their own data and material. Starting with an analysis of the existing situation, students research its history and development and follow with a projection of how the situation could develop in the future, in order to problematise the present and account for alternative futures. Students practice the relation between epistemology and representation in seminars on diagrammatics, and learn to re-assemble their material in books. As students approach their master thesis, they will have produced up to four books in the course of their studies and familiarised themselves with these different formats and conceptualisations of representation.

Methods, Tools and Theories (MTT) courses are offered as free electives that Urban Design students can choose from all of the HCU's programmes (Architecture, Metropolitan Culture, Civil Engineering, Geomatic Engineering and Resource Efficiency in Architecture and Planning).

## E-Learning

With the advent of the Hamburg Open Online University (HOOU) platform the municipality moved towards making higher education accessible to a wider public via an E-Learning format. In the first phase of the programme Hamburg's universities were offered two different plans to bring content to the platform: A) develop new content and get 25.000€ or B) restructure existing content for E-Learning didactics for 10.000€. The Research and Teaching

Programme Urban Design kicked off the format Project Management in Urban Design. Project Management was an initial demand made in the new Structural and Development Plan (Struktur- und Entwicklungsplan, STEP) at HCU. The plan assumed that the newly founded study programme Real Estate and Leadership would give a lecture on Project Management to all master students with accompanying seminars by all study programmes. When the study programme Real Estate and Leadership failed to pass through the university's senate, the lecture was restructured as a lecture series involving academic staff members from all study programmes. The HOOU funding supported the necessary efforts to develop Urban Design's contribution to the lecture and the seminar.

Given the contemporary urban situation, project management has been identified as a highly regulated and intensely politicised yet open field of activities emerging as a necessity in the work of a growing number of actors affiliated with the production of the urban. We began this adventure of transposing information from the doingness aspects of the research and teaching programme Urban Design to this contribution to the Hamburg Open Online University platform with a strong motive: realising an E-Learning arrangement that reflects on urban forms of knowledge in the making and aims at fostering capacities of making agencies immanent to objects and organisations more open to the reality of urban processes than any preconceived form of interaction.

This idea culminated in the Project Archaeology of the Summer School Building a Proposition for Future Activities which took place from September 12th to 24th 2016. E-Learning serves particularly well in combination with off-term projects such as Summer or Winter Schools, as it allows students to dive into the Methods, Tools and Theories before working collaboratively on site. We believe trans-curricular collaboration makes possible coming into play on site.

#### Ongoing research activities

This integrative approach to the modes of doing Urban Design on the level of curricula and didactics can also be found in doctoral theses, postdoctoral qualification and third party funded research projects.

For instance, the dissertation project Re-Positioning Project Management in Urban Design is propelled by the motif to contribute to the

interrogation of how actors in urban design can regain capacities to act and thus enable urban potentialities. The analysis starts from the assumption that project management in urban design has gotten short-changed in its use as a technique to do more with less, making sound financial management and legal conformity of construction projects its sole purpose while pertinent urban issues like the infrastructures of 'making it' appear within reach yet remain unproblematised. More fundamentally, the attempt to reconcile urban and administrative modes of existence is likely to have wider consequences for the legitimacy of current and future projects in wider welfare policy. The work in this dissertation project is not representational for the entire assemblage that enacts urban design, but rather aims to illustrate and analyse basic problems and configurations of the doingness aspects of project management in urban design.

#### Intercultural practice

Developed in the project University of the Neighbourhoods (UoN), the term 'interculture' broaches the issue of culture as an urban resource. It furthermore emphasises the interaction between different ways of conception, action and interpretation. Why culture? If we analyse the city from the perspective of cultural everyday practices, we discover an interplay in which culture 'introduces symbolic equilibriums, compensational contracts and more or less permanent compromises'.<sup>41</sup> These contracts remain sustainable less due to their legal legitimacy but rather through establishing a public sphere – a decisive aspect of the rationale behind implementation of performative formats in urban development processes as cultural programming. This also means: actively enlarging the scope of the term urban development by responding to the existing urban setting and using it to develop new potential courses of action.

Let us come back to the core curriculum of the Research and Teaching Programme Urban Design. Strengthening and deepening students' respective disciplinary backgrounds, the vertical dimensions (Urban Territories and Transformations) of the curriculum feed into and inform the overarching horizontal dimension (UDP) where students undertake trans-curricular projects. Doing live projects—such as the University of the Neighborhoods (2007–2014) and the Summer School Building a Proposition for

Future Activities (2016-2018)—ultimately present opportunities to understand reality in its functioning. But how does it come into functioning? It is the diagrammatic structure of the curriculum which organises the open form.

### *Curriculum as diagramme*

We approach HCU's Urban Design curriculum diagrammatically. Drawing on Frederik Stjernfelt,<sup>12</sup> diagrams are types of signs 'which represent the internal structure of objects in terms of interrelated parts, facilitating reasoning possibilities'. This allows research and teaching staff, students, guest lecturers and other actors related to urban design activities to understand and negotiate their requirements and needs for methods, tools and theories according to their specific situation in a project. The curriculum echoes the respective assemblages of the diversity of its practitioners (students and staff) as well as the sociopolitical context, specific conditions, ongoing activities, pressing theoretical and practical questions and issues, as well as contingent opportunities emerging from researching into urban situations.

### *Urban Design Project Glossary*

#### **Take**

A take is a specific didactic form, which we have developed and included in our curriculum. The notion 'take' is derived from film and music. Especially in jazz music, making a take means to record the same piece in different versions with different improvisations. That is exactly what a take for the research and teaching programme Urban Design is about: a structural form to work in circular iterative processes around one motif or question. The take is a rehearsal tool to learn how to keep an indeterminate open process constructive without closing it. The performative moment of the take is the repetition; its formal moment is the incorporation of difference into the repetition. In regard to notation it is characteristic of the take that its form of repetition works beyond the representational without neglecting representation. We can call this characteristic diagrammatic. The take leads to a transformational state of working on questions in which the repetition unlocks spaces of potentialities as well as potentialities of spaces.

### **Project Archaeology: Building a Proposition for Future Activities**

The term 'project archaeology' as introduced above is used to describe a technique for reading structural traces of projective processes and thereby multiplying the directions of a project's time (and content) vectors. It is clear that a documented process is a temporal entity that has taken place in the past. It thus seems to be a closed entity although in its becoming it was an open one. The dilemma, however, is that when the process is read as closed entity, the potentialities of the process itself get lost. Consequently, in order to open up the process once more and to regain its immanent potentialities, we work with a diagrammatic approach of serial fragmentation, de-assembling, cataloguing and indexing of the process structures. Rather than looking for representational effects, we look in the document archive for traces that incorporate new beginnings and for structural entities that can be reassembled. The project archaeology serves to retrace the individual decisions and events that structured a project's development and thus render visible alternative paths that the project could have taken. This enables one to reproduce and replay specific instances with slight variations so as to shift the project's vectors into a different direction.

### **Part 3. Modes of Play**

The conceptual origin of the triad syntax, semiotics and pragmatics can be traced back to the semiological field. Especially Charles Sanders Peirce and Charles W. Morris have found a conceptual frame for this categorisation. Central is the relation between a sign (representamen), a referent (the object of reference for the sign) and the meaning of a sign. Peirce uses the sign in a wider sense: it is always a product of a relational process, which includes all three correlates that lead to interpretation. Morris also invokes the concept of a triadic relation, but in a different way than Peirce. In his behaviouristic concept Morris sees the affective function of a sign as a psychological disposition of an interpreter, to react in a certain way to a sign.<sup>13</sup> The analysis of the sign in its relation to its correlates leads to three dimensions: syntax, semantics and pragmatics. Syntax is the relation between the analysed sign-vehicle and other sign-vehicles; semantics is the relation between the sign-vehicle and its object (designatum) and pragmatics is the relation between

the sign-vehicles and its interpreter. Generally speaking, Morris embraced 'an empiricism which is radical, a rationalism which is a study of methods and a pragmatism which is critical'.<sup>14</sup> These are the three components 'that correspond to the three dimensions of semiotics. Radical empiricism is semantic investigation, methodological rationalism is syntactic investigation, critical pragmatism is pragmatic investigation. The unity of science thus results from the unity of its linguistic structure, from the semantic relationship which it succeeds in establishing, and from the practical effects it produces'.<sup>15</sup>

Let's look a bit closer at the three components:

1. Syntax for Morris is far more than a system of syntactic rules of a language. In a broader sense, for Morris, syntax is connected with signs of the perception, the aesthetic signs and the practical use of signs. Syntax can be regarded as:
  - a. The analysis of signs and signs' combination in respect to their structural framing.
  - b. The mode of combining signs.
  - c. The formal relation of the signs in respect to each other.
2. Semantics is the relation of the signs and the objects that they relate to. It is the dimension of signification rather than of meaning. With semantics, one denotes the conditions for which an object can be a correlate of a sign.
3. Pragmatics deals with the relation between the signs and its interpreter, it is the analysis of the use of signs in a general sense. In Morris' view, pragmatics are concerned with real life aspects of semiosis (as is the functional process activated by social actors, with psychological, biological and sociological phenomena that are part of the sign process).<sup>16</sup>

It is obvious that the behaviouristic stance of semiotics offers an opening for other disciplines. In German Sociology semiotics were expanded and found their way into general assumptions of scientific knowledge production and its social and cultural contexts. Exemplary are Wissenschafts- und Erkenntnistheorie (philosophy of science and epistemology) by Kriz et al. who broaden the notion of semiotics to aspects of social experience<sup>17</sup> and Ritsert's *Einführung in die Logik der Sozialwissenschaften* (Introduction to the logic of the social sciences)<sup>18</sup> that expands the semiotic triad to a theory of social

sciences. In Ritsert's concept, the syntax of a theory refers to a formally logical principle of order, the semantics of a theory refers to the meaning and content of a theory and pragmatics refer to the relation of a theory to practice. It is worth mentioning that Ritsert analyses theories, not practice.

Within this semiotic idea a topology of how the research functions opens up. This topology heavily influences Gabriele Sturm's idea of understanding the spatial sciences.

Ritsert's book was particularly influential to Gabriele Sturm's chapter on scientific methods in her seminal study *Wege zum Raum* (Towards Space), and notably to the location of method between theory and empiricism.<sup>19</sup> Sturm here refers to the triad of syntax, semantics and pragmatics in relation to the spatial analysis exactly as laid out in Morris' as well as Ritsert's theory. Sturm's conclusion is that methods always operate in two directions simultaneously. As systems of rules, methods are the constitutional base for theory on the background of experience. On the other hand, theories make use of given catalogues of methods, which underpin the empirical proof. She thus explains the syntactic structure of research practice.

In a lecture given by Sturm at the HCU in 2015,<sup>20</sup> she differentiates her theory on method. This leads her to propose the following aspects that should define the methodology of the research process: Semantics denotes a field that consists of defining the interest of knowledge, the theme, the argumentation of the theme as well as assembling the already existing knowledge concerning the theme and the aim that clarifies the decisions made in the semantic process. A representational documentary product of semantics could be a proposal or exposé.

The syntax field is concerned with the structure of the research and the formulation of the research question. It is divided into two layers: the structure of the field that one engages with (=object of research) and the structure of the scope of the work (=subject of research). Syntax leads to the questions 'Which knowledge do we already have about a theme? What is the purpose of the chosen method? Which methodological design is used?'

Finally, pragmatics concerns questions about the suitable instruments and strategies to collect data, suitable instruments and strategies for analysis and where to look for already existing modes of design

or research procedures that fit to the chosen theme. Pragmatics refers to the decision between design and research and the choice of the procedure for research or design.

To sum up, semantics is the clarification of the endeavours into conditions and relations, syntax is the conception of the justification, and pragmatics is the formulation of the argument, with which the utility of the project is secured.

By arguing that the spatial sciences (Raumwissenschaften) are interdisciplinary by their different forms of intermingling between research and design (with this mingling taking place particularly in the dimension of pragmatics), Sturm concludes that the interplay of semantics, syntax and pragmatics asks for a specific organisation of interdisciplinary work. Indeed, it is not a novel idea that spatial sciences are characterised by differing traditions of science practises, which are assembled and mixed in different constellations. What is new is that these constellations have to be consciously (re)organised in their methodological set up. This conclusion leads Sturm to fundamentally ask anew the question of 'what is research?' Sturm's alternative proposal is to let go of the term research and instead to speak about what she calls 'a process of knowledge'. To methodologically organise this process remains the key question of interdisciplinary spatial analysis.

For the use in the Urban Design department of the HCU, the triad of semantics, syntax and pragmatics as carved out by Sturm, is transferred into an iterative diagrammatic programme. It consists of four modes:

- a. Coming into play, which means generating and finding the motive of knowledge.
- b. How to play, which implies finding the question, doing research, getting material, creating the program.
- c. Play, which consist of a field of practises such as doing, reflecting, recording and displaying.
- d. Understanding the playing.

While (a) can be related to semantics, (b) to syntax and (c) to pragmatics, (d) is a meta-form that recapitulates the archive building up in (a), (b) and (c). This is yet another way of explaining 'project archaeology'. It should be mentioned that (d) can then also become the object of (a), (b) and (c).

While we now have connected the components of research with their semiotic correlates, it is important

to note that in the above listed modes (a) to (d), one is confronted with an intermingling of the research dimensions of semantics, syntax and pragmatics. For example: to come into play one may do a *dérive*, which is first and foremost a pragmatic procedure. In doing a *derive*, the semantic dimension can be explored through an embodied agential process as a lived confrontation with an urban reality and a representational, reflective process, which can then lead to a syntactical analysis.

## Conclusion

Method itself turns into a Praxisform. We call the structure of this form *take*. It would be possible to argue that we expand the semiotic triad – which is, after all, a theory of theory – into a practice form. Here we follow Ian Hackings in that 'We represent and intervene. We represent in order to intervene and we intervene in the light of representation'.<sup>21</sup> The grounding theory of space in this approach is one that interprets space not as a given but as produced by actors and actants. The basic didactic modes of this theory are:

1. perceiving = semantics
2. representing = syntax
3. living = pragmatics

These modes refer to the categories of space that Henri Lefebvre has laid out in 'The Production of Space' as perceived space, conceived space and lived space<sup>22</sup>.

In concluding, we would like to discuss a kind of a diagram that Gabriele Sturm has made to illustrate the whole topology of the structuring of the scientific field. The field's semantic for her turns into a kind of vector – a way of articulating the interest, the motif and reason for this relation, as Morris had shown that semantics is always the relation between the object and the sign, so depending on which object one deals with, its semantics lead to carving out the motif for undertaking research. The syntax, as Morris has said, is more a correlational thing, a matter of combining sciences, something that could be called structure.

Research practice then becomes a question of structuring the field, of the work in the field, the question how to produce knowledge on the base of the question, based on the motive. This is the reason why Sturm argues that the articulation of the research interest is equally part of syntax. Often it gets kind of mingled. People think that the question is already

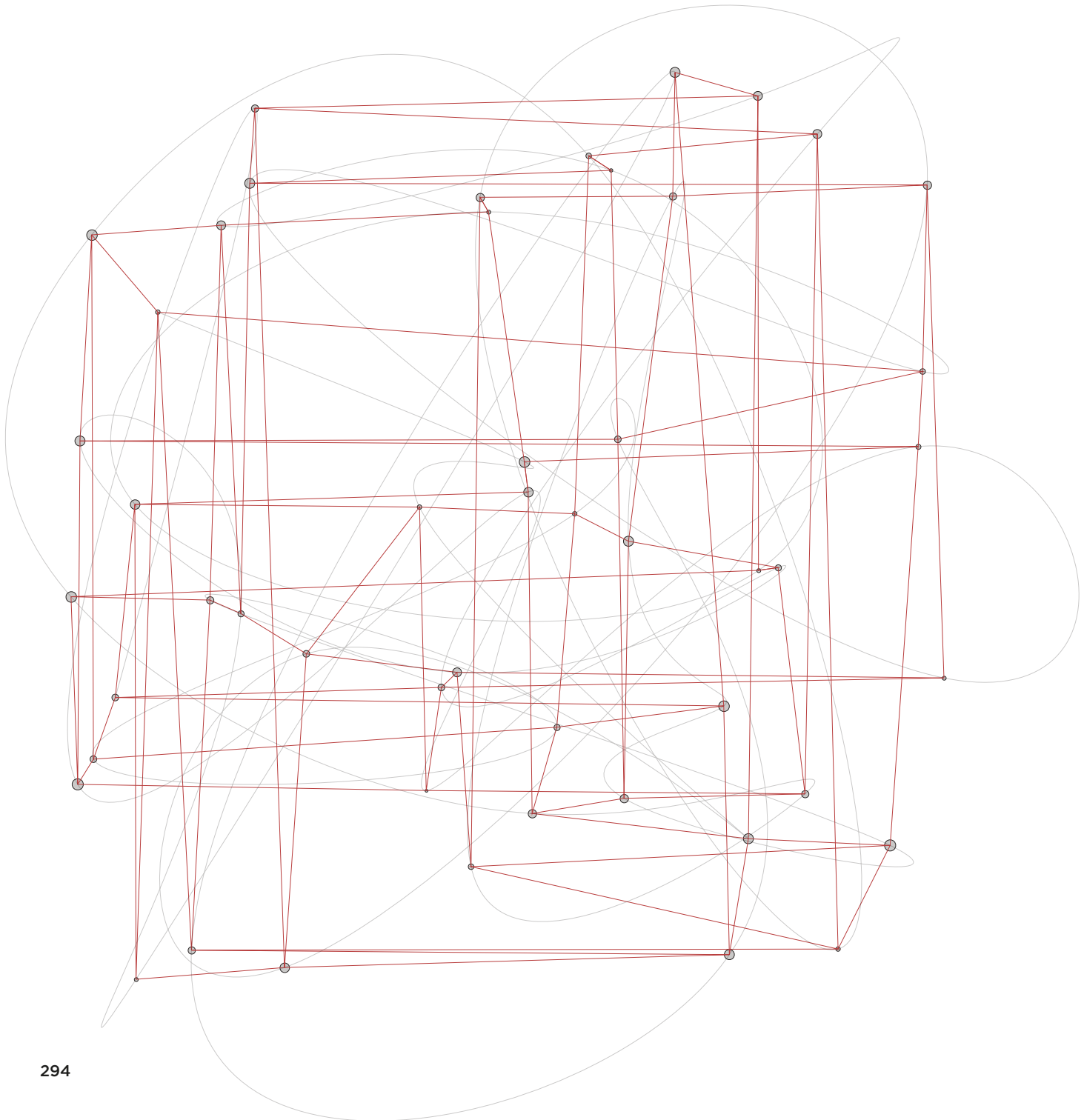


articulated in the semantic field. But it is not. It's just the specification of the research interest (the motive, which is the base of the whole work). If we see the semantics as vector and syntax as structure, we can say that the pragmatics is the function, the use, the performance, how different methods are employed. The procedure at work here is not an addition of different methods to come to new knowledge. This would lead to information – knowledge as a closed container. So with the semantics, on the motif, which is the vector of the whole work, we now know how to use different methods to come to results, which we are interested in based on the motif. While Sturm specialises in semiotics by opening up the topological field of knowledge, we are interested in transposing our understanding of space as produced onto the whole notion of knowledge. We see this understanding as a process, as an organised process that could not be understood as a closed container, not as a prefabricated product. It rather serves as the common denominator, directing attention towards the vectors and conditions engrained in the process of producing knowledge.

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## 2.5 PERFORMANCE



# GOOD|FAST|CHEAP. Project delivery methods that expand audiences for design build.

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## ABSTRACT

This paper offers an approach to design-build that foregrounds project delivery as a means to engage and expand diverse audiences in the authorship, implementation, and reception of design-build architecture. The three projects presented, all executed in the public realm, will demonstrate how foregrounding issues of construction quality, time, and budget can animate unique relationships between academic institutions, private contractors, owners, and users. Each project considers how a scarcity of resources (whether it be skilled labour, money, or schedule) when considered as a central issue motivating methodology, relaxes conventional relationships between authorship and control in the design-build process. In this role, the architect is repositioned as the designer of a theatre of experimentation based on the resources at hand, delivering agency to multiple constituencies, including lay audiences beyond the conventional architect-contractor-owner trinity.

**KEYWORDS** design-build, project delivery, authorship, control, constructability

As research and pedagogy within the academy, much contemporary design-build work centres on important disciplinary concerns-- innovative materials and building science, sustainability, public interest design, vernacular building, computational and parametric design, robotics, to name a few--through the medium of design-build. In this model, an aesthetic project, theoretical position, or technical interest is explored through design-build practice, rather than being central to it. The effect of this work is to position design-build as peripheral, a passive position in relationship to a research agenda that exceeds its scope. While this should not be assumed to be a negative reading in and of itself, what remains is open

territory as to what constitutes design-build research.

As academics, teachers, and architects actively pursuing design-build as research, we seek to position our work as advancing the central definition of design-build as project delivery method that binds together the modern roles of architect and contractor. As researchers, our work is to question how that project delivery method evolves in the face of contemporary influences such as technology, ecology, and economy. As teachers, we develop pedagogy and projects to expose students at once, in a direct way to the conventions of design-build practice while simultaneously challenging its assumptions. On the other hand, as architects we are interested in how

speculative modes of design-build practice can produce new possibilities for architectural expression.

Design-build means different things in different contexts. In a professional environment, it describes a contractual relationship between architect, contractor, and owner. In the academy, design-build refers to courses and research initiatives where faculty and students are responsible for both the design, and substantial portions of the construction, in the execution of a built project. In either venue, design-build transforms the traditional role of the architect, from independent authority to interdependent collaborative designer. What follows is a brief explanation of this transformation, an elaboration of a method we call GOOD|FAST|CHEAP that emerges from deeper understanding of its effects on architecture, and three projects that demonstrate possibilities of this form of design build.

### **From Design-Build to Build-Design**

In the implementation of buildings, every project delivery method begins with quality, cost, and time as the factors that structure the relationship between architect, contractor, and owner within a given project.

In the “traditional” project delivery method, design-bid-build, architect and contractor hold independent contracts with an owner. The architect assumes the traditional role of building designer rather than constructor, maintaining a margin of autonomy in the design and construction process, acting as an agent for the owner. In this method, the design is complete before the contractor is engaged, with the builder’s role to actualise a determined vision developed by the architect in response to the owner’s needs and desires. After the design phase, a contractor assigns a price, or bids, on a set of documents, and is awarded a negotiated contract to build the project. To grossly over simplify, while design-bid-build preserves the independence of design expertise and authorship, issues can surface in this delivery method when the architect loses command of construction costs and logistics. This has led to the now well-documented problems of cost overruns and schedule lapses, especially in a predatory and exploitative contracting environment.<sup>1</sup>

Over the last four decades, building contractors have put themselves in an influential position as the authority of construction cost, schedule, and have assumed the risk (and the profits) therein, expanding

their role in the design process. In that same time, architects have acquiesced the means and methods of construction in their work. While this relinquishing of responsibility was meant to mitigate risk in an increasingly litigious construction industry, it has adversely affected the architect’s influence over the architectural design and its execution. As a result, design-build emerged as an alternative building project delivery method to address the perceived challenges and inadequacies of traditional design-bid-build. Chosen by owners as a means to cut cost and minimise risk on projects often with compressed schedules, design-build places architect and contractor under a single contractual umbrella with the owner.<sup>2</sup> These new singular entities are increasingly popular with owners, and most design-build teams are contractor-led, especially on projects more complex than residences. In this model, design-build places the architect into a paradoxical relationship within the project where they must at once act as an agent for the owner, protector of public safety, all the while attempting to satisfy the contractor who manages their professional services fees. In a particularly aggressive form of design-build, known as GMP, contractors will guarantee a price before the design at the schematic phase, insuring the owner of cost control and schedule demands. This method buys them influence over the architecture as the project develops, applying further pressure to the designer, while usurping the owner’s control to maintain architectural quality.

Where design-build in the profession represents a challenge to the architect’s authorship of a design, the academy, as it often does, offers a symmetrical condition, an environment structured to increase control of the outcome, and a more intimate relationship between designer and builder.

The development of the master-builder is the dominant logic of university-led design-build work. As such, the pedagogical agenda of design-build curricula are preoccupied with the reciprocity between design development and applied building practices. In these courses, students are most often tasked with designing a project that they will at the very least prototype, and at most, construct completely. Smaller design-build projects, pavilions or temporary installations, often built within the confines of a university facility, may be shipped to a site for installation by faculty and students. In projects of increased complexity, such as

modest residences, or small permanent structures, students will often lead the design effort and construct a majority of the structure and finishes while involving design professionals and contractors (electrical, plumbing, HVAC) to implement or supervise work, as is required by the authority having jurisdiction.

The ubiquitous value of design-build in this context is for students to create meaningful connections between design and executing a built work, so that the latter may influence a future architect's design methodology. This work instils an attentiveness to the importance of communication between design documents and construction methods, creating awareness of the limits and constraints of possibilities within a given construction method, material logic, or labour practice. In essence, the act of design-build is invested here in the art of building--a means to refine further and perfect design approaches established elsewhere in their education. The contribution of design-build here in a student's education is a depth of understanding and a development of sensibilities, but the project delivery method itself does not pose a challenge to design convention. The architect remains in complete command.

Additionally, the development of design-build work in the university context, with university facilities, opens up access to unique resources and emerging technologies, creating a site for exploration. This promotes and facilitates faculty research inquiry, creating an important culture of innovation and risk taking, removed from exposure to public safety, the demands of clients, and the need for contractor management and oversight. Students who work on innovative projects develop capacities that in many ways exceed the current capabilities of construction industry practices. These academic venues treat design-build as a laboratory project, with an almost scientific method; a highly constrained process of controlled and manipulated variables, crucial to the development of research, but a difficult environment to simulate the contingency and complexity of enacting a built project in the public realm. In the academy, design-build as a project delivery method is not a research question, it is a medium to test possible answers to avenues of design and fabrication inquiry.

In response to these observations, what we propose is an agenda for design-build that exploits its conventions as a project delivery method in

professional practice, and as a means to transform its use value as a pedagogical tool and research platform within the academy.

### **GOOD | FAST | CHEAP: MetaDesign-Build**

This approach has led us to develop several criteria to structure our design-build research program, that we call GOOD|FAST|CHEAP:

- Construction logistics, quality, cost, and time must not simply be accommodated, but must be the generative logic in any project. To ensure this focus, projects undertaken must be highly constrained by a lack of skilled labour, time, money;
- Projects should have a client, and be executed in the public realm. A project delivery method cannot be tested without accountability to constituencies beyond the architect's control;
- Following point 2, each project must be collaborative, both within the design-build team, and beyond, involving at minimum one sub-contractor or consultant. The role of coordination, and the need for communication and translation of design language to construction logic is fundamental to project delivery;
- In pedagogical settings, design-build projects must be completed within the academic term. This constraint enables the undertaking of projects that have manageable outcomes, ultimately leaving students empowered with a sense of accomplishment;
- Relax. In projects over-burdened by constraints, total control over the outcome can quickly become impractical. Authorial practices that actively expand audiences in the designing and building should be encouraged. Think participatory processes, and open source products; Through speculative approaches to design-build, architects can act like contractors, and contractors can design as they build;
- Form follows resources. Limit aesthetic and technological biases through the design of rules and constraints that foreground the most important project delivery relationships. Suppressing preconceptions allows for the prospect of unexpected forms and spatial effects to emerge;
- Procedural protocols supplant as conventional tools when designing for delivery. In this mode, the performance specification, with its embedded



agency, has equal purchase to drawings and sketches. This logic privileges action over image, and sees project delivery as a role-playing game, designed specifically for each project.

Taken collectively, the criteria of GOOD|FAST|CHEAP proposes a shift to a metadesign-build framework.<sup>3</sup> Despite the perceived authorial drift and democratising implications of this methodology, we believe this approach has the effect of clarifying architectural expertise while empowering professional architectural practice.

Aspects of this work are not without precedent in the discipline. From TAO design Group's Earth specification-driven *Work House*, to Yona Friedman's flexible *Mobile Architecture*, or HouMinn's open-source OSWall, architects have applied select aspects of GOOD|FAST|CHEAP logics in the development of experimental architecture and research projects. These projects, however, did not completely consider the limits of project delivery proposed in our research practice, and we are interested in the implications could have in a professional environment, at larger scales.



Figure 1. Reflects Exterior (Pease Photography)

### GOOD | FAST | CHEAP: Three Ways

Three projects—Reflects, Softcore, and Fayz Box—have served as test cases, leading to the development of the approach to design build advocated in this paper. Each project was designed and built with students (while both authors were teaching at the University of Arkansas), but were not necessarily in relation to a specific course. In keeping with the thesis of this paper, each project description will focus on the project delivery method's relationship to design conceptualisation, in an attempt to reveal the constraints, design logics, and contractual relationships, motivating the architecture.

### NO SPACE | REFLECTS

Reflects is the winner of an architect-led design build competition for a temporary “treehouse” structure that became a centerpiece of the Cleveland Botanical Garden's summer show. The brief called for an innovative treehouse design that reconnected guests of all ages to the outdoors through interactive experiences that reveal the physical, emotional and developmental benefits of staying engaged with outdoor environments. The chosen site was the Secret Garden, a walled court with no trees surrounded by manicured gardens. The design emerges from the challenge of imagining treehouse architecture on a tree-less site.

Built for the budget of \$10,000 USD, which included all materials and labour, the project was installed just 10 weeks from award. The ultimate contract, held by the Botanical Garden, included liability clauses, so the author's professional architectural office, SILO AR+D was ultimately responsible for the design-build project. Before becoming a professional project, the design competition was pursued as an extra-curricular academic research project with a group of undergraduate students. The design was executed by a hybrid team of students, and professional contractors, all hired by SILO AR+D.

With limited access for a construction lay down area, an off-site prefabricated structure was developed to minimise construction time on site, limiting disturbance to the Garden's grounds. The design began with an imaginary 6'×9'×14' volume, dimensions suitable for path of egress around installation while allowing a second level to extend above the surrounding 7' walls. The architecture was conceived as a light mass

to occupy the minimum space within that volume. The most inexpensive, yet structurally robust option was a welded interconnected lattice of reinforcing steel. This assembly would allow the treehouse to be hoisted into place using a small crane remotely located adjacent to the site.



Figure 2. Reflects Interior (Pease Photography).

The design was developed limited by the length of rebar available in the budget. While iteratively testing configurations, an abstracted gabled house archetype emerged, floating above the surrounding walls, offering panoramic views out to the surrounding botanical garden. To create the “trees” that the house rests on and within, reflective surfaces are introduced. The house profile is mirrored symmetrically, generating a series of periscopes, transforming the Secret Garden into a Secret Forest.

The construction strategy consisted of infill panels of perforated metal and painted exterior grade plywood laminated with reflective Mylar. While the steel frame required a contractor and a substantial cost, the infill panels were something that could be pre-fabricated “in house” from donated or salvaged material. The Mylar was purchased separately, and laminated to the plywood by a blueprint company, with technology used in making construction signs.

The design work began at the University of

Arkansas and the build took place in Cleveland. A team from Arkansas travelled to Cleveland to complete the build, working in collaboration with contractors. Designs were tested iteratively initially through digital models, but ultimately a physical model was sent to the contractor to eliminate miscommunication during fabrication. The day before the scheduled opening the installation was lifted in place, and despite the client’s anxieties, the project opened on schedule.

The resulting abstract, planar, and porous architecture, in combination with the surface reflection, yields a variety of dynamic views whether on the ground, above, around, or within, effectively engaging everyone in the treehouse experience. Spaces throughout contain places to sit, walk through, and climb, a lattice for play and curiosity animated by Botanical Garden visitors of all ages. The result was a project that produced record summer attendance for the Botanical Garden, and important civic institution in Cleveland Ohio.

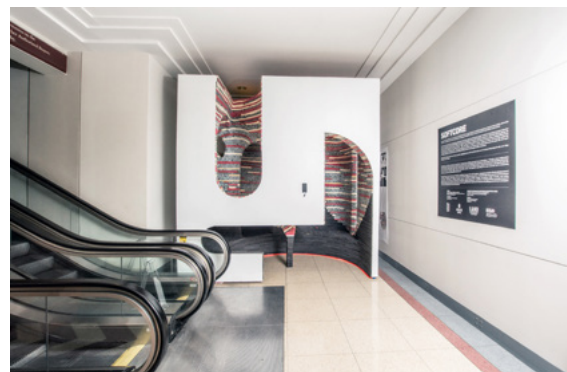


Figure 3. Softcore Exterior (Dominick Gallegos).

## NO WASTE | SOFTCORE

A responsive installation to the Archeworks’ ongoing Wasted Market research program, considering the use of discarded material from construction projects, Softcore was built as a demonstration project during NeoCon, America’s largest interior design conference and expo held annually at Chicago’s Merchandise Mart.

Working with the Merchandise Mart team a site for the installation was selected on the adjacent convention floor, which instigated the design. Funding for the project included travel costs, but limited support for material and labour costs. The project was designed and delivered in six weeks for a cost of \$1,000 USD.

To complicate matters further, any work within the Merchandise Mart requires union contractors, meaning the majority of work performed traditionally by trades (carpentry, painting, electrical, etc.) was not permitted on site by faculty and students. Thus, prefabrication became “a must”.

In keeping with Archework’s research, the pavilion was constructed from discarded and recyclable construction materials. As design began, students sourced possible material options from vendors and contractors in the region. Students quickly secured ample amounts of (Oriented Strand Board) OSB sheathing, off cuts of dimensional lumber and carpet padding underlayment, and cardboard from recycling facilities.

Clad with OSB sheathing, the design developed as a monolithic receptacle occupying an 11’ wide × 11’ high × 7’ deep volume, equal to the amount of construction and demolition waste generated every minute in the United States.

Using the available materials, the architecture was conceived using the analogy of a landfill, where a mass of waste is covered by a crust of turf. In Softcore, the solid mass is “cored” to create a place to retreat and recharge within the energetic NeoCon convention floor. Like a geological excavation, the interior space is lined with strata of carpet tile and carpet padding, materials that abate the sound while providing a vibrant and supple surface treatment.



Figure 4. Softcore Interior (Dominick Gallegos).

OSB and dimensional lumber served as a structural shell. On the interior, a light curvilinear cardboard egg crate substructure was developed. Carpet padding was attached to this substrate. The students developed a controlled design for the exterior including specific

openings cut in the sheathing to create visual connections with the convention floor while hinting at the sculpted interior. In contrast, the exterior the interior was loosely planned allowing for improvisation during construction in response to the behaviour of the imperfect materials.

The structure was palletised to fit in a normal pickup truck, capable of quickly being reassembled on site at the Merchandise Mart, before being carted into place. Because of the aforementioned labour protocols, once on site, the undergraduate students had to direct union contractors to finish the installation, including painting the exterior white. The distinct exterior character and interior environment of Softcore reveals the robust qualities of wasted or hidden resources. Softcore points toward ways that materials originally planned for obsolescence can be retroactively imbued with new value through acts of design-build.



Figure 5. Fayz Box Exterior (Ethan Werkmeister).

## NO HASTE | FAYZ BOX

Fayz Box is an interview booth built for the Fay Jones School of Architecture, currently housed in Vol Walker Hall, a neo-classical Works Progress Administration building built in 1937.

The project, commissioned by the dean of the school of architecture required the Fayz Box be deconstructed, stored easily, and reconstructed quickly throughout the academic year, with the ability to be constructed and taken down in a matter of hours. Fayz Box was designed and built in eight weeks with a team of two undergraduate students for the cost of \$1,500 USD.

To accomplish the dean’s constructability



constraints, the project was conceived as a knockdown kit of components that can be assembled by a layperson with limited knowledge of the project. When disassembled and flat-packed for storage, the 4'×8'×8' installation fits into a 4'×8'×8" volume. The logistical constraints meant that the construct is a light frame and a thin envelope.

The design became an experiment with the superimposition of competing patterns of formal and material content that create depth in the flat: an attempt to project substantial volume within a skin. Each "layer" has its own logic of fabrication, organisation, and articulation. Taken together the layers reinforce a series of nested symmetries, compressing five architectures in  $\frac{3}{4}$ .

A refined frame of 1" welded and powder coated tube steel was fabricated finished by a contractor off site given the precision required for the knockdown connections. Cladding the Fayz Box are a series of acrylic tiles developed from a multitude of material transformations, each designed to create detailed levels of variability within what initially appears as a material surface. The tiles are quickly connected together with a series that left exposed create the final hairy layer of the ambient volume.

While the symmetries of the frame and composition of zip tie connections are prescribed in the design, the arrangement of tiles is left open to the builder, in this instance a layperson or student without prior knowledge of the architectural approach. Through the repetitive, assembly method of the tiles, the builder can become actively engaged in the design process, without the need to sacrifice time.

With this methodology, each time the Fayz Box is built, the act of construction generates a unique architecture. By harnessing the power and material effects of variation and complexity in unexpected ways without sacrificing efficacy, this delivery model passively embeds an analogue building technique with the complexity and richness of a computational logic.

This project hints at the promise of providing the rule based specification to the contractor as the act of design in a project, liberating labour from the constraint of a pre-conceived product, providing flexibility for the act of assembly to enhance the design outcome, promoting collective authorship of the architectural object.

These three projects documented here reveal

that GOOD|FAST|CHEAP is empowering. GOOD allows architects to consider designing and building as a communal activity with social agency beyond the studio or workshop. FAST forces action, limiting hesitancy, while the furious pace of the project offers diverse audiences the ability to partake in design-build both in and beyond the classroom. CHEAP reveals that impactful and relevant architecture is accessible at any scale and economic condition. Considered compositely, this methodology develops a resourcefulness for design that conceptualises alternative practice models wherein every project becomes ripe for speculation through the agency of design-build project delivery.

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# Thick and Slow. Positioning technology, design/build pedagogy and material culture in the High Atlas Mountains of Morocco

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## ABSTRACT

It is an all too common phrase that we live in a world that is changing, accelerating or, more generally, speeding up. One common element to this acceleration is the role of technology in the shaping of our modern world. Over the past four years, students and faculty at the school of architecture have been working on a variety of community-determined projects in the High Atlas Mountains of Morocco. While this work provides much needed infrastructure, this paper will focus instead on the deployment of technology for these projects; the technologies (materials, tools, processes) employed by the local craftsmen and the interface between these technologies and our students, with their own view of the world enhanced largely through ideas of progress. This paper suggests that these design/build projects provide the opportunity for both a reflective and reflexive experience, allowing our students a unique opportunity to reconsider construction, material culture and technology within our existing culture of speed.

**KEYWORDS** Design/build, technology, pedagogy, Morocco, reflexivity

## Introduction

In his article, “Technology as dazzling distraction” the late Neil Postman succinctly articulated the need for a more measured understanding of technologic innovation when he asked, ‘what is the problem to which (*insert technology here*) is the answer?’<sup>1</sup> With this question, Postman probes the impetus behind technology, attempting to discern whether technology is created to solve problems or problems are created to accommodate new technologies. Does the dazzle of technology distract our attention from issues that need our attention? This paper will address questions surrounding our relationship with technology. How do we discern the value of innovation and what are

the contours of the technological landscape across social and cultural boundaries? Moreover, how can this expand our ability to identify felicitous technologies and material practices in the construction of the built environment? Specifically, this paper will examine the building practices and methods of construction employed in the villages of Aguddim and Amezray located in the Zawiya Ahansal region of Morocco where students and faculty have been working over the past four years on community-determined design/build projects. Within this context, how are our students, with their own worldview largely conditioned through digital technologies and ideas of progress, impacted by working on these projects and what can be gained by



working slowly with thick, heavy materials?

This paper will first provide a brief overview of writers addressing the ever-increasing technological sophistication of our modern world that has been termed by many as an accelerated culture or a culture of speed. While acceleration may be the 'constant leitmotiv of cultural modernity',<sup>2</sup> in Morocco, working slowly with heavy materials may engender moments of pause, or periods of distraction that may allow for reflection and insight to occur. Following this will be a discussion of technology with respect to knowledge, skills, and tools, the instrumental valuing of technology, and the possible rejection of technology. Within the view that technology is a social construction, a discussion of the cultural context in which technology functions in Morocco will also be provided. A description of the specific construction practices by the craftsmen and labourers will follow illustrating that the specific technological processes exercised in the villages and in our design/build projects exist within a complex nexus of material practices, the socio/cultural/religious environment of place, and the recent influx of modern technologies in this remote area. Finally, the dynamics of the construction process itself will be examined from the perspective of both craftsmen and students suggesting that these projects provide the students with an opportunity for both reflective and reflexive practice in which to reconsider technology, material culture and construction within our existing culture of speed.

### **Acceleration and the elimination of time**

It would seem an undeniable fact that the world is speeding up. We can see this phenomenon in most circles of society, from the worlds of business and commerce, to home and leisure. As a society, we are increasingly encultured into this modern world, heavily reliant on devices, immediate access to information, and an increased proximity to almost everything. This acceleration influences our personal lives, our outlook on life and '(the) capacity to escape, to disengage, to 'be elsewhere', and the right to decide the speed with which all that is done'.<sup>3</sup> Reinforced through the avenues of social networks and other digital (and print) media we are continually bombarded with messages indicating that old technology should be replaced by new, fixed with fluid, slow with fast, thick with thin, and heavy with light. It is through this binary code that

technology accumulates power, celebrates newness while stigmatising the old.<sup>4</sup>

Over the past two decades, writers have addressed, in a generalised, global sense, these issues of speed and acceleration. Bauman sees acceleration in terms of instantaneity; the movement from a former heavy modernism to one of a current fluidness or lightness. Light modernism is light with respect to both size and movement. Light modernism is lean and agile, nimble, mobile and fluid whereas heavy modernism is fat and slow, bulky, weighty and immobile. This new lightness is also characterised by a fundamental change in the relationship between space and time as the two have been collapsed into a series of 'moments - points without dimensions'.<sup>5</sup> Tomlinson refers to this acceleration as the condition of immediacy, which can be identified by a host of new phenomena that typify modern life. These new phenomena include the proliferation of screens and keypads, twenty-four hour news coverage, digital photography, and the blurred distinction between work and leisure to name a few.<sup>6</sup> Similar to Bauman, Tomlinson sees immediacy existing in both time, with regard to the lessening of time or instantaneity, and space, in relation to proximity, and how both time and space are implicated into today's communication and media systems. In a similar fashion, Borgmann uses the ideas of instrumental hyper reality, a condition created through the harnessing of computers and global communication networks, to demonstrate the lightness and power of the digital world. Contrasting the lengthy 'slow and tedious' real construction of a factory compared with the 'swift and glorious' acquisition of a corporation through takeover, or through the simulated richness of a flight simulator, Borgmann demonstrates the appeal of these digital technologies and further attempts to eliminate us from, 'the unrelenting flow of time'.<sup>7</sup>

What becomes obvious within the world of instantaneity or immediacy, or even in hyper reality, is that the middle condition, the time between the 'here and there, now and later, what we desire and what we can expect to receive',<sup>8</sup> is perceived as unnecessary time that should be eliminated or at least, as in the case of a simple Google search, be reduced to fractions of a second. Time, either within this middle condition measured in fractions of seconds or in longer amounts of time, blotted out with media devices, has now become an annoyance. As Alexandra DeSanctis writes,

‘training in the skill of being busy begins early’. Within our daily lives, enculturated with all forms of media and communication, silence becomes problematic and free time is something that must be filled. ‘It (silence) doesn’t advance our future careers. It doesn’t seem to get anything *done*.’<sup>9</sup> With ideas of progress becoming synonymous with speed,<sup>10</sup> the heaviness of time and silence, this dreaded middle ground, is a space to be filled with activities that keep things moving; music, communicating or simply roaming the digital landscape.

But this is not to say that these activities are distractions, devoid of benefit. On the contrary, distractions can be quite powerful as Anderson writes in ‘In Defense of Distraction’. Discussing Proust’s *In Search of Lost Time*, Anderson describes the narrator, Marcel, eating a tea-soaked madeleine cookie and being transported back to the world of his childhood. ‘That famous cookie is a kind of hyperlink: a little blip that launches an associative cascade of a million other subjects. This sort of free-associative wandering is essential to the creative process; one moment of judicious un-mindfulness can inspire thousands of hours of mindfulness.’<sup>11</sup> Anderson’s quote informs us that the smallest of distractions should not be overlooked and in fact should be cultivated as they allow for new worlds of information and connections that would not otherwise be accessible. Both the time between, the middle ground systematically eliminated within digital tasks, and the un-mindfulness of distraction form opportunities and places for insight in our world today. As will be discussed below, working slowly and building heavy walls with craftsmen and labourers provides our students with an opportunity to look intently at the world, and to allow, through the process of work, the free-associative wandering that connects us to the creative process.

### Technology

Any attempt to deepen our understanding of technology and material culture must begin with a discussion of technology and how it is employed in society. While the word technology has gradually come to represent only digital tools,<sup>12</sup> narrowing the scope of what constitutes technology in the world, this paper will take a broader view of technology. Technology is defined by Swaney as the knowledge, skills and tools to solve problems.<sup>13</sup> Similarly, Heidegger writes that

technology is ‘the manufacture and utilisation of equipment, tools, and machines, the manufactured and used things themselves, and the needs and ends that they serve’.<sup>14</sup> Technology in both of these definitions might be best represented as the tools, say a hammer or cellular phone, and the knowledge and skills necessary to make these tools function. But when knowledge, tools, and skills are applied to a problem, technology then becomes a technological process. Technological processes might best be described through the building of a house, the construction of a road or the use of a cellular phone to organise labour. When these technological processes develop, through experimentation or evolution, to the point of creating new knowledge, tools or skills, the result is the instrumental valuing of the technological process. Instrumental valuing thus becomes new knowledge that is developed during the technological process or, ‘people developing more *valuable* ways to get things done.’<sup>15</sup>

Ultimately, technological processes along with instrumental valuing are what engender ideas of progress. But instrumental valuing and progress aren’t universally accepted or uniform across social and cultural boundaries. In many cases, specific technologies can only be understood within the social or cultural context in which they are embedded.<sup>16</sup> Simply put by Swaney, ‘people figure out what works, how it works, and what is worth doing *within their own frame of reference*.’<sup>17</sup> An example of this is the introduction of washing machines to the villages in Morocco.

Machines for washing clothes have been available in the village since the introduction of electricity around 2012 and are found in some homes. While they are a convenience, potentially saving time for the women that use them, they also have potential drawbacks within the social structure of the community. The washing of clothes has historically been done by women in the Ahansal River and is one of the primary activities for women to gather and socialise. Women congregate on the rivers’ edge with buckets, clothes and rugs, as children play in the river and on the banks in one of the few social venues for women in this conservative Muslim community. While a time saving convenience, the washing machine, confined within the home, eliminates the opportunity for socialising and so what might be viewed as a substitute for the physical

operation of washing clothes by hand in the river removes a vital social activity from the community. It may be that in the future, with the further introduction of washing machines, the social structure of the village will evolve to create new places or opportunities for women to socialise, but for the time being its negative aspects outweigh the positive.

These social and cultural struggles with the instrumental valuing of technology are also consistent with the phenomenon of technology rejection. As Rama Murthy and Mani write, '(the) choice of one technology over another is seen to reside not in the objective properties of the artefact through a formal technical or economic assessment but in many cases is driven by the micro politics of the community (or organisation), the commitments of the various actors, prevalent rhetorics, and fads.'<sup>18</sup> Another way of viewing this idea of rejection is whether a technology makes 'sense' to the individual or community. Only technology that makes sense will be viewed as useful and relevant.<sup>19</sup> Technology rejection can exist due to many factors including technological complexity (Is the technology too complex for the target group?), technologic fatigue (Similar to complexity, are there too many features and is the technology relevant to the target group?), flexibility (Is the technology flexible enough to meet the demands?), user-base (Is the technology within a niche market and only desired by a small group of users?) and finally, loss aversion (Does the adoption of new technology result in the rejection of other technologies?).<sup>20</sup>

Within myriad factors related to the rejection of technology, it is clear that some technologies will be rejected, as in the case of washing machines, and other, more sophisticated technologies will be accepted, such as cellular phones, which are widely accepted as a means of communication in the villages. As we shall see below, instrumental valuing and the rejection of technology play an important role in the villages of Aguddim and Amezray.

### Construction in the village

Over the past hundred years, the construction methods in the villages of the Ahansal Valley have changed from rammed-earth to stone construction. While the reasons for this are not totally clear, the labour force in the villages continues to move towards stone construction with some rammed-earth and

earthen block construction reserved for the restoration of the historic communal fortified granaries, known as igherms. Most building materials are locally sourced including stone from the surrounding landscape for foundations and walls, sand and gravels from the Ahansal River for concrete and mortar, clay for floors and roofs as well as wood from the forests for roofing materials and structural floors above grade. Windows, doors, plumbing, and electrical items are all imported from the larger neighbouring towns as are cement, reinforcing steel and board lumber for more elaborate constructions.



Figure 1. Material quality, village of Aguddim  
(Photo by Christopher Livingston)

With no building codes, houses and community buildings are constructed at a variety of quality levels, dependent on the economic means of the client. The simplest of structures are single story, composed of stacked stone foundations and walls, clay mortar, compacted clay floors, and traditional roofs composed of wood beams spanning less than three meters with wood infill between the spanning members and then topped by plastic sheeting and clay. Buildings that are more elaborate will have concrete foundations and floors, cement based mortars, reinforcing steel pillars embedded in the walls and concrete beams to replace timbers in spans over three meters in length.

Craftsmen and labourers almost exclusively work with hand tools and this extends from the excavation of foundations to the construction of walls and roofs. Most people do not own mechanical transportation and walk to the construction site so the amount of tools on a project is generally limited to the tasks that are currently underway; a stone hammer, tape measure,

mortar trowel, and French plumb bob for stone-related construction. Other tools including buckets, screens for sifting sand and wheelbarrows are community owned and find their way from project to project.

Depending on the location of the project there are independently owned trucks that will deliver stone and riverbed materials although due to the lack of roads, these materials rarely can be delivered directly to the site. Typically, a labourer with a donkey will move these types of materials from the delivery site to the construction site. While construction moves at a human pace, communication moves at the speed of light as everyone connected to the building industry from the craftsmen to the labourer with the donkey owns a cellular phone. Simple phones are relatively cheap to purchase and are an essential tool in which to locate work as well as coordinate and manage people; labourers are contacted, materials are ordered and delivered, and questions are answered all by phone.



Figure 2. Construction site, village of Amezray  
(Photo by Kristoffer Erickson)

Over the past four years, we have worked with Muha Ouchrif, one of the many craftsmen in the area.<sup>21</sup> He has been working as a craftsman, or 'maalleem' in Berber, working on his own projects and hiring labourers, for the past eight years after a one year apprenticeship with another craftsman. Muha has had a cellular phone for approximately eight years, almost two years before electricity came to the village. (Before the advent of permanent electrical power, villagers used solar or micro-hydro power to charge cell phones. Cell towers were also solar powered so this form of communication has been around, leapfrogging traditional phone land-lines seen in most of the developed world). Before cellular phones all

of the workers would meet daily in the local market, or suq, to organise their work, hire labourers and order materials. The introduction of cellular phones has meant that Muha can more effectively run his business; taking on multiple projects, organising labour, scheduling material deliveries and other tasks that used to be done through face to face interaction. The cellular phone in this case serves as both an example of instrumental valuing and as an important step in the social construction of technology within the community. The cellular phone has enhanced the existing communication network of craftsmen, labourers and suppliers allowing Muha, and other craftsmen, the opportunity to plan more 'on the fly'. He can now plan deliveries that are more complex and contact people that are already in transit, saving him time and increasing his overall efficiency. Due in part to this increased usage of cellular phones within the community, Muha has also been able to increase the amount of projects he can accept, which has impacted his standard of living. As a result, Muha has gone from walking to project sites, to riding a bicycle and now to owning a motorcycle. It would seem that the craftsmen and labourers have surmounted the difficulties associated with leapfrogging over conventional land-lined phones to the cellular market.<sup>22</sup>

#### **Insha'Allah – 'it is god's will'**

Unlike most individuals growing up in the developing west with a plan for their future, Muha has no real vision or plans for the future. He has dreams but ultimately he is guided by his faith as a Muslim. Muha has been taught, along with others in the community, that there is a destiny that controls his life and it is this destiny, or gods will - 'insha'Allah' - that will largely dictate the future course of his life. This extends also, to how he sees the growth of his business. He believes that projects come to him as destiny; that they have always been his projects and it is just the timing, the presencing of work that keeps him busy. As mentioned above, Muha works with simple hand tools as do the other craftsmen in the area. Construction works at a human pace and with the exception of cellular phones, appears to be as it has been from time immemorial. But occasionally more sophisticated technologies present themselves, interjecting a new form of instrumental valuing to the community.

With government-supported programs extending



into this region of Morocco, there is now access to greater technology in the village. Along with an electric grid, there is a new grade school/secondary school as well as improved roads into the region and along the Ahansal River. With the construction over the past six years, a substantial amount of heavy equipment has passed through the area in the form of excavators, trucks and graders. Muha, and other craftsmen have on occasion negotiated the use of this equipment to excavate building sites on steep slopes where excavation by hand would be a very difficult and lengthy process. Compensating the government operators to excavate on a 'moonlight' basis provides the craftsmen and community with a convenient service that would otherwise be unavailable. Muha appreciates the heavy equipment because of its ability to move large quantities of rock and dirt. He doesn't reject this technology but at the same time, it is difficult for him to imagine how this type of heavy machinery could be owned by a member of the village. When asked if he thought he might own such equipment one day, he laughs and says, 'Insha'Allah'.

While the rejection of technology literature might suggest that the lack of technology in the village is one of user-base related to economics (Is the technology within a niche market and only desired by a small group of users?) or technological complexity (Is the technology too complex for the target group?), it is apparent that there are more powerful forces at work within the community. This once again highlights the importance of other value systems, in this case the guiding religious beliefs of the craftsmen and the community, which affect the acceptance or rejection of technology.

While the advent of cellular phones and heavy equipment illustrate the community's desire to embrace technology, it is only by working alongside the craftsmen and labourers on construction projects that the full picture of construction, material culture and technology can be appreciated. What follows is a description of the construction process and some outcomes from the students experience in the program.

### **Work and the reflexive process**

After the project has been identified and designed with input from the necessary stakeholders in the community, construction begins on site. While the design process is familiar to the students, the build

portion presents new and unfamiliar opportunities for the students to reconsider their own enculturated and accepted notions of technology, material practice and construction. This is reinforced by a set of learning objectives which emphasises understanding traditional construction methods along with problem solving and critical thinking skills. To accomplish this, over the five-week construction period, the students work alongside the craftsmen and labourers, performing all of the tasks a labourer might engage in, as well as interpreting, the design intent to the craftsmen who cannot read construction drawings. The students engage in a range of physical tasks that include excavating with pick and shovel, hauling away debris, moving rock to the building site, processing sand and gravel from the river, and mixing concrete and mortar. Additionally, the students engage in more cerebral activities, which include documenting the construction process through sketches, journal entries, and photography as well as monitoring the construction process for consistency with the drawings, and sketching out future construction details. The days are loosely structured to provide both types of activities and to provide a variety of opportunities for the students.

These projects naturally lend themselves to slowness. Without machines to do the work, the pace of construction is based more on human exertion and less on how much can be accomplished in a day. This pace also lends itself well to periods of observation and reflection. Without the constant distractions of media and located in a completely foreign setting with a new, albeit basic, set of tools, the students unknowingly place themselves into a reflexive setting. This is a place where the time between tasks is expanded as opposed to being eliminated in the digital world and the un-mindfulness of digital distractions through media are replaced by the construction process itself, possibly allowing for periods of introspection and discovery.

The reflexive process, based on the work of Giddens and Beck,<sup>23</sup> is best described as 'a critical approach to the generation of knowledge that operates 'in the moment'; the reflexive practitioner... constantly engaged in the process of questioning (self-monitoring) their own knowledge claims and those of others as he/she engages in social interaction and the micro-practices of knowledge/power.'<sup>24</sup> Reflexivity differs from reflection in that the reflexive process takes



place *during* the activity instead of *after* the activity has occurred. In this way, reflexivity becomes a way for our students to take into consideration the actions of the craftsmen while consciously adjusting their own actions and thinking to the activities going on in the construction process. Reflexivity is thus a way of 'repositioning', where the students take on similar experiences as those they wish to understand (the craftsmen and labourers) and through this 'repositioning', they become the craftsmen through experience.<sup>25</sup>

So what can our students, with their fast, light and impatient world, find of value in the slow, thick, heavy world of construction in Zawiya Ahansal? Four years of hands-on construction in the villages has revealed three consistent themes; first, the differences in how technology is conceptualised, second, the understanding of material culture through direct engagement with craftsmen and construction materials and finally, the pace of construction itself.

As western thinkers, we have developed a way of thinking that persistently looks for a technological solution whereas the craftsmen are looking for the easiest most expeditious, 'organic', one might say, solution. When faced with a problem the students will tend to move towards more complex solutions, believing that these are faster and more efficient in the end. It would seem that we are moving in opposite directions when conceptualising technology. Consider the following student/craftsmen interactions that have been documented in journals over the past four years.

*'The craftsmen constructs a string line for a masonry wall that will have a series of steps, varying in height. We begin looking for a felt tip pen to mark the location of the steps on the string. The craftsman measures to locate the steps, wets his fingers with saliva, wets the string and then throws dirt on the string, creating a series of marks.'*

*'From another string line, the craftsman needs to know where to start a wall. The craftsman measures to locate the end of the wall and then drops small stones from the place on the string, using gravity to locate where the wall will start. We were busy looking for a construction level to locate the point.'*

*'A donkey with a set of large saddlebags is carrying a load of wood. One side of the saddlebags has more wood than the other, creating an imbalance and making the load list to one side. We try to figure out how to untie the*

*load and reposition it with greater balance. A craftsman picks up a large rock and places it in the lighter side to balance the load and walks off with the donkey.'*

*'There is no place to mix concrete on site due to a large amount of organic topsoil. We bemoan the fact that we have to mix the concrete in several small batches using a wheelbarrow. At the end of the day, the laborers place two wheelbarrows of river sand and gravel on the ground with a bag of cement and some water. When the concrete is completely incorporated, they flatten it out into a large, slightly concave circle and leave for the day. The next morning they have a pad for mixing concrete.'*

*'After working all day, the shovels are encrusted with concrete and need to be cleaned. Not able to find a brush to clean the shovel, we gently wash the shovels in a barrel of water using our hands. A laborer walks by, breaks a branch off a juniper bush, washes his shovel and hands us the branch.'*

In all of these accounts, which seem to happen regularly, the students are left to think, 'why didn't I think of that?' This level of simplicity is startling because, through technology and convenience, we have become blind to the most obvious solutions to problems. In the descriptions above it would seem that Postman's question, 'What is the problem that the given technology is the solution?' finds relevance.

The second theme, related to material culture, is generated through the students' direct engagement with both the craftsmen and construction materials. The villages are a place of slowness and heaviness; the stone and handmade quality of the buildings conveying a sense of heavy, deliberate construction and reflecting the resilient character of the people. These are buildings fashioned from the earth instead of parts selected from a catalogue and it is this extreme, this binary opposition of heavy to light, slow to fast, thick to thin that resonates with our students. This is a quality not just seen but felt through the act of construction and engagement with materials. As one student writes, 'It seems as though modern society has lost an art form, one that consists of very intimate processes. Watching the masons carefully handle and chip away at the stones brought forward a new job-site connection for me, the on-site workers processing the raw material itself.'<sup>26</sup> In addition, material culture is also related to the way in which the projects are constructed and the selective use of technology by the craftsmen. While the students look towards the most technological solution

for construction, the craftsmen see tools in relation to what makes the most 'sense', as mentioned earlier.



Figure 4. Construction site, village of Aguddim  
(Photo by Kristoffer Erickson)

Finally, the third theme is related to the slowness of construction that provides moments of reflection during the building process in which to consider the role of technology and its appropriateness. Working alongside the craftsmen with a pick and shovel to excavate a site, slowly manipulating rocks with a hammer for walls and foundations, or sifting riverbed material to produce the correct size aggregate for concrete and mortar, all create time in which to consider the construction process or just to let the mind wander outside of digital space. Instead of eliminating the time between tasks or filling in free moments with digital browsing, the students realise this can be filled with slowness. 'It (slowness) can decelerate our sense of time, stretching moments and making experiences more special, more ritualistic and delightful. The user inhabits such a building and over time comes to regard it as another layer of himself (or herself).'<sup>27</sup>

## Conclusions

Questioning our understanding of technology, its reach, and its role in the shaping of our modern world would seem appropriate in a time of increasing cultural speed. One way of accomplishing this is to create space and time within the design/build experience, creating a space in which to slowly partake in and observe the construction process.

Our program in Morocco emphasises the importance of working in-situ with craftsmen to understand the technology (knowledge, skills and tools) employed in construction as well as the social

and cultural issues that mediate the instrumental valuing of technology. The value of our program resides in the ability for our students to engage with technology, material culture and to experience the possible slowing of time. Their engagement with technology allows the students to work with tools and materials, with craftsmen that have an intimate relationship with construction and have also balanced ideas of progress with the community and their own cultural/religious value structure. Their engagement with material culture allows for an intimate, felt, relationship with materials through construction and a lived experience within the villages. Finally, time allows the students, within the tasks of the day, opportunities to reflect on their work with the craftsmen and how this work influences their own sensibilities regarding technology in a reflexive manner. If the result of our program, based on building slowly with thick, heavy materials, is one of a gentle reconsideration concerning the role of technology across social and cultural boundaries, then we have accomplished our goal.

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# Towards a Structural Gestalt. The Lamar Station Classroom for Urban Farming.

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## ABSTRACT

“In my view, the connection with the process of making continues to be seminal, and a wise architect today searches deep personal friendships with craftsman, artisans, and artists in order to reconnect his / her intellectualized world and thinking with the source of all true knowledge: the real world of materiality and gravity, and the sensory and embodied understanding of these physical phenomena.”

-Juhanni Pallasmaa, *The Thinking Hand*

The value of engaging professionals at the earliest stages of the design process yields unique learning opportunities. The structural naivety of students coupled with the engineering professional's interest in teaching allows previously unasked questions (often overlooked because it's either not the norm or because being too close to the subject matter often makes the solution seem illogical) to arise and be investigated. Perhaps no relationship is more important to architects than that of the architect to the structural engineer. As Rem Koolhaas suggests in his preface to the book *Informal* “...engineering can now enter a more experimental and emotional territory; if architecture ever wants to evolve beyond the ornamental status it currently enjoys, it is through the thinking of Cecil Balmond and others that offer both a new seriousness and new pleasure.”<sup>1</sup>

The University of Colorado Denver's design build program, *ColoradoBuildingWorkshop*, focuses on the model of integrated project delivery (IPD) - engaging students at the earliest stages of the design process, while simultaneously seeking input from engineers. In the case of the Lamar Station Classroom for Urban Farming, the IPD process moved the students towards a structural gestalt.

**KEYWORDS** multi-disciplinary, structural, gestalt, integrated project delivery, design-build, community engagement

## Introduction

Gestalt psychology was founded in the early 20th century and studied in depth at the Berlin School of experimental psychology. The central premise of the movement was that an organised whole is perceived as other than the sum of its parts. While the design process at *ColoradoBuildingWorkshop* has evolved throughout the last eight years, we have consistently

looked for design solutions that value a simple unified whole over a series of disparate parts. That is not to suggest that the individual elements are not essential but rather understanding how they relate to the whole is invaluable. In psychology, gestaltism is often opposed to structuralism. Gestalt theory, it is proposed, allows for the deconstruction of the whole situation into its elements.<sup>2</sup> In the case of Lamar Station, the individual



elements became the starting point in the design process distilling, refining, and finally combining each element into a whole that is other than its parts.



Figure 1. Lamar Station Classroom for Urban Farming looking north (Jesse Kuroiwa)

### Case Study- Design Brief

Lamar Station Crossing is a new multi-family low-income development by Metro West Housing Solutions, the housing authority of Lakewood, Colorado. The Planned Unit Development (PUD) is adjacent to one of the newest light rail lines in Colorado, the W line from the city of Denver to the City of Golden, Colorado. The housing authority approached ColoradoBuildingWorkshop about designing an outdoor classroom to educate their residents about urban farming, environmental education in addition to providing spaces for community youth programs.

The site for the outdoor classroom is adjacent to the Lamar Station Crossing in the panhandle of the property along the Lakewood Gulch. The neighborhood is considered *transitional* and is slowly being revitalised by the transit-orientated development surrounding the light rail line stop. The housing is a mixture of affordable and market rate rentals. On the other side of the Lakewood Gulch is a Head Start program, an early childhood education program. Metro West housing donated the land for the facility so residents could have easy access to educational childcare services for their children. After the Head Start building was completed the Metro West Housing Authority installed a core-ten steel pedestrian bridge over the gulch linking the two neighborhoods and providing access to the new light rail line. Before the installation of the bridge, due to a lack of sidewalks,

residents to the south were forced to walk in the streets around the Lakewood Gulch.



Figure 2. Lamar Station Classroom for Urban Farming looking southeast (Jesse Kuroiwa)

### Design Process

ColoradoBuildingWorkshop's design process emphasises the students search to identify what is interesting, that is hidden, in what is given. The students are asked to look for this in the project's program, context, and the environment- the course later layers on a similar search for opportunities exploring structure, light, and material. These ideas, or core issues, become the foundation for the design exploration and discussion with the IPD team. By establishing two to three core issues, the project can be worked on by a much larger group. The core issues are non-visual and allow students, and the IDP team, to agree on ideas without the burden of aesthetics.

In the design of Lamar Station, the group decided on a series of core issues. First, the structure needed to relate to both the Lakewood Gulch's public path and the Metro West Housing complex. Second, the structure was required to be vandal resistant. Third, the project had to be open enough that the staff at Metro West could see into it for security. And fourth, the project had to be opaque enough that people using the classroom would not be distracted by those passersby using the adjacent sidewalk to catch light rail.

These core issues on their own can be thought of as the parts of Gestalt psychology, or beginnings of a design solution to a particular problem. The difficulty resides in bringing the parts together into a cohesive whole. This is a process of editing the project, not through subtraction, but rather through combination and refinement.



It was in the study of these core issues in conjunction, not isolation, which allowed the students to discover an interesting dichotomy- one that would eventually become the impetus for the project. Because the sidewalk from the Head Start program came within ten feet of the Outdoor Classroom project site, Metro West asked that we consider an opaque wall to preserve the privacy of the classroom from the sidewalk (core issue number four). However, they also requested that the structure maintain a clear sightline from the classroom to their main office in the new housing development located over 300 feet away (core issue number three). The transparent/opaque wall, or what later came to be called the building's *dynamic transparency*, became the opportunity to explore what was hidden in what was given. This seemingly impossible design solution tasked students to use all of the core issues in combination to come to an appropriate design solution creating the project whole by refining the parts.

### Exploration of Form

Manifesting building form in an academic design build studio is widely debated and arguably one of the most difficult tasks for a teacher to manage. Unlike an architectural office, there is no hierarchical structure in the architecture studio. Each student expects an equal voice in the design process and navigating multiple design solutions can be challenging. Yale's Vlock program and early projects by DesignBuildBLUFF used the competition model to select their designs. In these examples the studio is divided into student teams of three to five students, each producing their design solution, and at the end of the design phase, a vote is taken on the best project. The vote is sometimes done by students and sometimes involves professionals, but there are clear winners and losers. While this often produces a desirable design, it can be challenging moving into the detailing and construction phase. Some students no longer have the project buy-in to stay engaged while others act as *the designer* objecting to any changes to their winning design.

During ColoradoBuildingWorkshop's collaboration with DesignBuildBLUFF, we quickly saw the difficulty of this approach and searched for an alternative solution. We briefly explored the consensus method described by Steve Badanes.<sup>3</sup> This process breaks students into teams and then combines the strongest

design solutions from the various projects. While this created more equality in the studio among peers, we found the designs often lacked clarity. In some cases, they appeared as a project of compromise and in others an eclectic mix of differing design solutions.

Instead of holding an architectural competition for the best design to move forward, or operating by consensus, ColoradoBuildingWorkshop students work collaboratively, presenting new designs each week to the studio or IPD team. The team used the core issues and identified joint position to judge which solutions best meet the criteria. The best designs move forward being adopted by the group and redesigned. This process brings with it the advantage of distributed authorship. Distributed authorship is not only a fact of architectural production but also a safe haven that architectural Live Projects can support.<sup>4</sup>

Creating this framework, and asking the students questions that lead to investigations that are project appropriate, we can reach a clearer design solution. This clarity helps to avoid student solutions that respond to design trends and focuses the architectural discourse on student's architectural morphologies based on the joint positions.<sup>5</sup> As these morphologies develop, the team returns to the realities of context, environment, program, material, structure, and light. Since consultants and clients collaborate in all stages of the design process, the students benefit from early architectural buy in.

### Crafting solutions to the parts

While the early design solutions for the Lamar Station Classroom were far from a linear process, they can most easily be explained by student's first crafting architectural morphologies in response to the original core issues. When considering this in relationship to Gestalt psychology, these should be seen as understanding the parts individually and then looking for ways to overlay the issues to create innovative solutions to a more cohesive whole.

The advantage of different design teams at this stage of the design build process is their ability to see different hierarchy in the core issue and craft differing solutions based on the team's values. An example was the teams differing solutions to the structures need to relate to both the Lakewood Gulch and the Metro West Housing complex (core issue number one). Some teams suggested a material connection while others

suggested a more formal relationship. This dialogue included the IPD team, and they challenged students to propose solutions that met both criteria. After numerous design presentations, the final solutions pull a product - bar grate - from Metro West Housing's handrails to create a connection to the housing but uses the material - rusted steel - to tie the structure to the Lakewood Gulch. In addition, the structure draws formal cues from the Metro West building. This helps link the building to the public domain of the gulch through material and color while simultaneously relating to the building where the residents using the gardens live. Steel was chosen as the primary structural material to minimise vandalism and relate back to the COR-TEN steel bridge.

Originally the building's skin and the steel structure were being considered independently by many of the design teams. In contrast, one team looked to combine the skin and the structure into a singular design idea. This design idea was based heavily on satisfying the third and fourth core issues. The project had to be open enough that the staff at Metro West could see into it for security while being opaque enough that people using the classroom would not be distracted by those passing by. While the solution was elegant, it was determined to be too expensive to fabricate and time-consuming to construct. It did, however, challenge the class to consider how the structure of the building could be combined with the skin. This moved the IPD team towards a structural gestalt.



Figure 3. Early study model integrating structure and skin. (John Gibbons)

### The Organised Whole: Structural Gestalt

"Simplicity is the ultimate sophistication." —  
Leonardo da Vinci.

As the design moves forward through the semester

the project as a whole must develop as something other than the sum of its part. It is in this process of combining the core issues and joint positions - individual parts - into a unified whole and editing for clarity that the building begins to obtain a particular simplicity. Many of the laws of Gestalt psychology are evident in the final solution.

### Law of Pragnanz

Often called the law of simplicity, the law pragnanz is a German term meaning good figure.<sup>6</sup> The overall form of Lamar Station is a rectangular cuboid clad in a steel bar grate skin. During an IDP team meeting Andy Paddock, the structural engineer on the project, suggested that if a bar grate skin was used, the loads from the roof might be able to be carried through the skin of the structure and reduce the number of columns required to hold up the roof. The students were already considering bar grate as a skin. They noted that the privacy increased when using this skin because as one approaches the structure on the path, the building becomes more oblique and, therefore, gets continually more opaque with the vertical louvers of the bar grate. A finite element analysis of the structure revealed that not only could the number of columns be reduced, all the vertical webbing in the roof trusses could also be omitted. This simplified the project, reduced the overall cost and weight, and increased the transparency.

The final solution is a statically indeterminate ring truss comprised of four primary trusses. Each of the four primary trusses is a different unique version of a modified Warren Truss, whose typically coplanar vertical web members were replaced with out-of-plane panels of steel bar grating. What the individual grating bars lack in sectional stiffness they make up for in sheer numbers, using over (970) 3/4" x 1/8" vertical steel bars evenly spaced around the perimeter of the ring truss. The ring truss and the vertical bars of the grating form the primary structure of the classroom. The implementation of this idea combined the core issue of structure, light, and material into a simplified skin that the students could manipulate to accommodate the programmatic and contextual requirements of the project.

We believe this is the first time a structural system, using bar grate as vertical truss members and columns to support the building, has been employed. In 2017, the American Institute of Steel Construction recognised

the Lamar Station Classroom for Urban Farming with a National AISC Ideas2 Award for innovation in steel construction.



Figure 4. Ring truss being craned into place (Erik Sommerfeld)

### Law of Closure

The main concept in the law of closure is that our brains fill in gaps to create meaningful images.<sup>7</sup> The most common example of this is a series of dashed lines in the form of a circle. The voids in the rectangular cuboid of the Lamar Station Classroom are filled in by the brain to see a unified whole. Careful attention had to be paid to each void to not erode the form beyond recognition. Each façade of the building has a distinct void relating to the context, environment, or programmatic requirements of the structure. On the south, the building opens to the gulch maintaining a connection to the public path and letting low winter sun into the building. To the east, a void creates a seating area for viewing the bridge, gulch, or classroom space. The void to the north and west are linked. This creates the entry and opens the structure to hillside seating that is utilised when the structure hosts concerts.

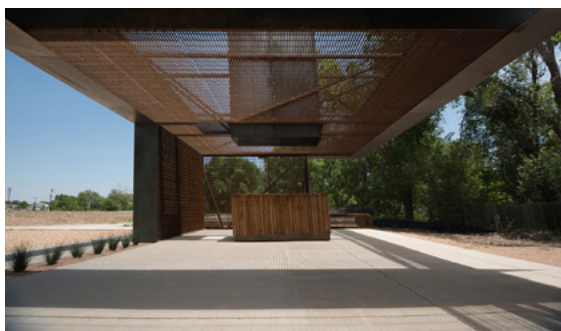


Figure 5. Lamar Station Classroom looking east. The steel plate shear wall is visible to left. (Jesse Kuroiwa)

Each void also plays a vital role in the structural stability of the building. Laterally, each wall section is a combined braced frame and steel plate shear wall. With only five primary points of support for gravity loads and three lines of lateral resistance, the gravity and main wind force resisting systems had to be analysed simultaneously. This balanced aesthetics and individual member stresses with global stability and deflection. Of particular interest is the use of full height narrow steel plate shear walls at the ends of the braced frame walls. Similar to the bar grating skin turned structure of the ring truss, these steel plates serve architecturally as both the finish and the closure at the ends of the double-wide bar grate walls but also as shear walls providing redundancy to the main wind force resisting system and reducing torsional deflection due to eccentricity.

On the interior of the structure, the gutter and oculus contribute structurally to four out of the five secondary trusses spanning the interior of the ring truss. These non-conventional interior trusses use rolled steel plates as the vertical web members in two trusses and completely replace all the truss webs, acting as a slender deep beam web, in two other trusses. Programmatically the gutter truss aligns the entry of the building with the wash station and community herb garden to the south. The water flows off the roof and into the wash station. This run-off combines with wastewater from the wash station to feed the community herb garden. By integrating the programmatic elements of the design into a structural solution the project, the structure takes a more performative role in the expression of the building.

### Law of Similarity

Before submitting to the building department for approval, the project was redesigned to maximise material sizes. The law of similarity suggests that similar things tend to appear grouped together.<sup>8</sup> The length and width of the structure were placed on a 2'-11 13/16" grid to match the width of standard bar grate. This drastically reduced the fabrication timeline by eliminating any horizontal cuts that would have been required on the bar grate. The grid also spaces the bar grate evenly between panels to ensure an evenly spaced skin across the entire façade. Using the modular nature of the panels as a regulating device creates a self-similarity to the building façade further reinforcing the simplicity of the building.

## Construction

The design and simplification of the project didn't end after the students submitted their working drawings to the city for approval. Making changes to the design during construction is one of many advantages of the design build delivery model. An example was the design of the oculus, located directly over the teaching table. It was clear that the solution as designed would not only be too complicated to construct but would extend the construction of the project well beyond the end of the semester. The oculus needed to be reduced in size and as such, the trusses on either side required redesign. This was a significant change but was required given the timeframe and complexity of the original design. It was the students' understanding of the structural requirements combined with the architectural understanding of the structural engineer that allowed the group to work through an appropriate design solution. The solution would not have been as evident if it wasn't for the IPD model. This collaborative approach gave both parties an understanding of the project goals. The oculus couldn't just *get smaller*, it had to get smaller in a way that could still provide the critical structural support of the primary trusses while not being a slave to it. In retrospect, the solution to use the metal wall panels of the oculus as the vertical webs for portions of the trusses seems straightforward and obvious, but it is the result of semesters worth of teaching and learning to obtain an understanding of a complex problem.

## Conclusion

While each discipline can attain singular one-dimensional designs on their own, a true structural Gestalt can only be obtained when this interrelationship is identified, and its critical boundaries are pushed. This process argues for an integrative relationship with the engineer that continually reflects on the larger design ideas to reduce the project to its essence. This reflective practice relies heavily on identifying the joint positions early in the process, so every team member is working towards a common goal.

The architectural morphologies that follow are then fully integrated and considered against core architectural elements of material, light, program, environment, context, and structure. This synthetic design process allows each member of the team to

bring his or her expertise to the project.

As the professions continue to expand, the days of the single master architect analysing their building, calculating the structure and producing working drawings are disappearing. We have found that by helping students to understand how to reduce design elements by synthesising them into the bigger ideas, versus layering the design with complexity, brings richness to the project that would otherwise be lost. By allowing the integrated project delivery team to be part of the design process at the earliest stages of the design, rather than having the students act as the sole author, the students are exposed to how they can serve as leaders guiding the process solving complex problems with richer and more complete solutions.

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# Architectural Live Projects as 'Spaces of Rehearsal'.

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## EXTENDED ABSTRACT

*'Street Society is a weeklong design event facilitated by architecture staff from Queen's University Belfast. As an annual outreach project since 2010, it brings clients from community and voluntary sectors together with talented students of architecture, to produce in five days something remarkable and stimulating.*

*Street Society is a place of co-constructive learning in a post-conflict context. The students learn skills from one another and about the challenges facing their clients, and the clients gain insight into the process of design, the value and potential of their built environment. This open learning process does not result in deliverable architectural solutions, instead it demonstrates possibilities, capturing ideas that already exist at community level and exposing their value. Together with their community clients, the students demonstrate in one week a high level of listening and learning, and an ability to visually capture ideas, releasing new potentials, new futures. The process places students and the community on the same level: with no hierarchy. Ideas, needs and aspirations are voiced, responded to and, with skill and youthful passion, translated into proposals.*

*The outputs of Street Society (sketches, plans, 3-D images, maps, models, artefacts and ideas) can lead to further more supported community discussions, or become directly embedded into community funding bids. Some have moved onto government capital lists for further brief development, leading towards built initiatives further down the line. But the really valuable outcomes are richer awareness and new relationships within and between communities, statutory bodies and future built environment professionals: a dialogue about the built environment at street level.'*

This is the text with which we promote Street Society. It is a positive projection of an 8 year-long and often hard-won process. Beyond educating architecture students, Street Society has set itself the aim to *develop and test a collaborative, creative and social space of urban rehearsal*. The paper will critically examine how and whether this aim is met. It will begin by outlining the rationale and shift towards a street level, 'dispersed' university model, in response to a post-conflict context, and go on to discuss the mechanisms of Street Society and its collaboration with a government initiative over the last two years. The paper draws on improvisational theory to better understand the social and ethical nature of the project and examines how the concept of rehearsal speaks to Street Society and live projects more generally.

**KEYWORDS** spaces of rehearsal, improvisational theory, live projects, co-constructive learning, post conflict



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# Relating architecture. A controlled experiment.

**TED CAVANAGH.**

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## ABSTRACT

Design/build or live project education makes possible the existence of objects and networks. This paper argues for an improved convention of architectural scholarship that suits the process-oriented nature of designing, constructing and educating. It dips into the language of Science and Technology Studies, specifically the social construction of technology and actor network theory. It reports on a controlled experiment building a set of five similar projects. It reflects, connects, and maps influences among these five projects and infers some implications for design/build projects as a field of study.

**KEYWORDS** design/build, process, social construction of technology, actor network theory, graphic novel

A network of architectural academics who design and build projects with their students are collaborating on five similar buildings. This is intended to generate measured comparisons of similarities and differences. The five buildings are constructed in series in order to focus on knowledge transfer and technological refinement.



Figure 1. Students from three universities building concrete formwork to support the fifth and biggest gridshell, Chéticamp, Nova Scotia (Coastal Studio)

The immediate result of this experiment was an emphasis on process. How can we effectively record process? Of necessity, this implies a massive increase in data. We have established some precepts to organise this data of the design and building processes so that it is useful to others:

- the data is located along a project timeline displayed visually;
- each point in time is occupied by any sort of information from drawings to video to email;
- the data is left in its 'raw' form so that it is accessible to others.
- After essentially date stamping and locating the data from any student design build project, the next precept involves the adoption of various conventions to tag the data so that it is retrievable through the semantic web:
- tagging data is useful for the designer/ builders to organise the record of the project;
- following conventions encourages other designer/builders to access each other's data;
- the data can be compared and contrasted across

many projects by researchers.

The Design Build Process ontology is based on:

- Process Specification Language (PSL). There are four primitive classes in the ontology of PSL Core, ACTIVITY, ACTIVITY OCCURRENCE, TIMEPOINT, and OBJECT;
- Dublin Core for resources;
- General Formal Ontology for roles and involvements;
- Nepomuk Messaging Ontology for communications and messages;
- FOAF Ontology for people, groups and organisations.<sup>1</sup>



Figure 2. A still from the interactive graphic face of the design build exchange [dbX]. The timeline emphasises process (dbX)

It seems evident to architects that the process of construction is both technical and social. Researchers interested in design/build projects and their process are in disciplines that emphasise the technical or the social.

Technologies are created in social contexts. Many individuals and several networks of association are engaged, either directly or indirectly, in the development of a building or technology. There are at least four generic groups: producers, advocates, users, and bystanders:

- Advocates are those who write and talk about the technology either in trade or popular venues.
- Producers "...have a direct organisational/economic stake in technologies. Advocates have a political stake in technologies.
- Users are interested in the technology lives-- an everyday, personal stake.
- Bystanders are those whose opinions, values, and judgments about technologies indirectly shape their understanding of what is good and right for themselves and others—an everyday, social or moral stake."<sup>2</sup>

Moreover, social groups create technologies in ways that are not equitable, some groups have power, some are cohesive, and other groups are fractured and impotent.

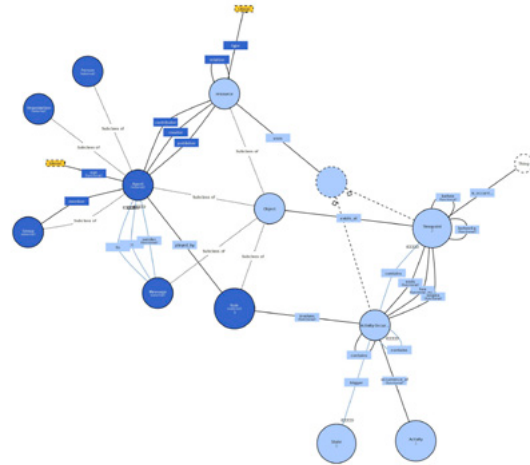


Figure 3. A moment in time of an animation depicting a network of social relations. This was developed as an example of output from the design/build exchange. (dbX)

This emphasis on the technical combined with the social has been theorised as the social construction of technology and as actor network theory. The social construction of technology has some interesting principles that are worth applying to the process of design/build. For example, regarding the principle of social groups just discussed, there are several significant principles:

- interpretive flexibility;
- stabilisation — rhetorical closure;
- stabilisation — redefining the problem.

The principle of interpretive flexibility means that multiple solutions co-exist. Historians apply this principle in retrospect to demonstrate that technological solutions are not predetermined and, in fact, the solution might have been otherwise. The process of a design/build project can be organised to highlight interpretive flexibility. Thus the idea is to keep multiple design and multiple construction possibilities alive and record them.

The remaining principles of social construction of technology explain aspects of limiting this interpretive flexibility so that the project can be realised. To put this another way, invention and design are about closing down options. Sometimes this is a gradual focusing, other times there are abrupt disruptions caused by

unforeseen circumstances that reopen things already decided. These abrupt disruptions have been identified as an ideal moment to isolate and document.

Interpretive flexibility and disruptions are balanced by two strategies of stabilisation or focus. Technologies require social agreement that a problem has been solved. Appearance of resolution is accompanied by a narrative describing closure. A standard report at a conference like this develops a rhetoric of closure, explaining the project as the (only possible) successful result of a design and a building process. “Stabilisation ...requires the convergence of many things: social agreement as to meaning and use of the technology in question, a practical and legal framework that supports its use and finally, the technology itself must have reached a point in its design where it is attractive and desirable to use.”<sup>3</sup>

Examples of new questions, sensibilities, and forms of critique result from harvesting its detailed archives of audio, visual, written and digital material. All emphasise the process of innovation in pedagogy, in design, in collaboration, in construction and in knowledge mobilisation.

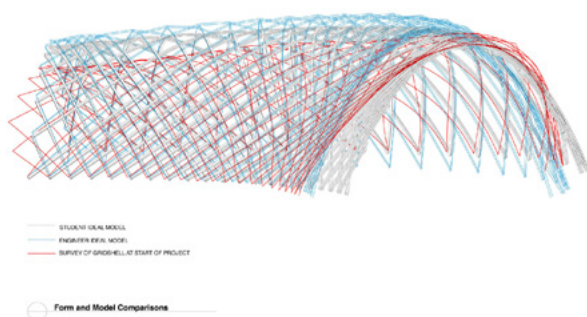


Figure 4. Versions of the Farmers' Market, each a different computer model generated by different actors: architects, engineers, surveyors. Flexible interpretation generated a fourth and final ideal, and a fifth realized version. (Coastal Studio)

Buildings actively participate in society. Following Albena Yaneva, design is seen as a process of recollecting, reinterpreting and reassembling the social.<sup>4</sup>

As Bruno Latour says early in his career: “Following Madeleine Akrich’s lead, we will speak only in terms of scripts or scenes or scenarios played by human or nonhuman actors, which may be either figurative or nonfigurative.”<sup>5</sup>

It produces a hybrid created between previously

understood singularities: predetermined and unpredictable; prescriptive and performative; assumed and negotiated; mathematics and material, created and digitally generated; drawn, digitally drawn, and digitally scripted; orthographic and three dimensional.

It is a “controlled” experiment. At once: five buildings and a singular building; five design and five construction and five pedagogical processes anticipating one; a response to unique climatological situations and all climates; the support for five occupancies and human dwelling; plural and singular; and local and global.

There is an assumption in all of this - namely that educators involved in live projects are interested in spending their time reflecting on their work after it is complete. In addition, this reflection will benefit from the organisational tagging of data displayed here and this reflection will extend to analysis and comparison with other projects at other schools.

So far, workshops of educators indicate that there might be reasonable uptake on adopting the organisational tagging of work. The perception is that it would be an aid to rigorous cataloguing which would aid in writing about their projects. It is also achievable because it can be assigned to a teaching assistant and would produce a predictable result. However, there is more for to be done on the analysis and comparison aspect. Here the early indications are that this might be a different set of people than the designer/builders themselves — doctoral students writing dissertations or academics from other disciplines interested in studying architectural process.

In discussions, we have agreed to consider emphasising particularly important moments in each project. It is for this reason we have identified different sorts of time points in our graphic depiction of the process. Moments of decision, moments of disruption. Times of choice when the project becomes otherwise.

We are searching for other ways of highlighting or drawing attention to important moments or observations. This paper concludes with a discussion of another method of drawing attention that suits the emphasis on process. The graphic novel format is particularly suited to depicting our projects.

Here the simple narrative is about the form of the building reflecting the adjacent mountains. As a statement it is pretty bland, but as a comic much more can be inferred. The characters are two students

and the teacher all building a live project. The site is described. It also sets up a conflict between object and perception, the world of architectural critique. We infer meanings: evidently, the students were not part of the early conceptual design and they are not aware of the original concepts. Already there is a lot to consider. Questions raised in the first panel are answered and new questions are raised. Perhaps the story will go on to deal with other issues of working on established designs. "...your inferences about the situation, the relations of the characters and the potential outcome will change constantly, and a narrative emerges as you establish connections between the events."<sup>6</sup>

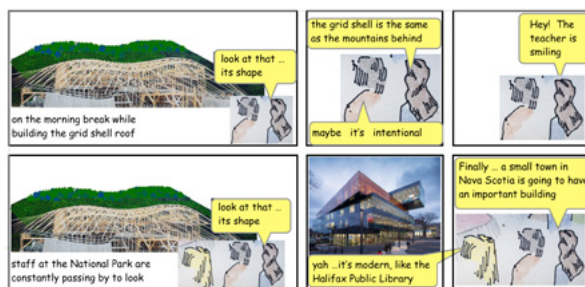


Figure 5 Examples of comic strip narratives that depict interpretations and critical commentary about the design/build process and the particular project – the fifth gridshell. Chéticamp, Nova Scotia (Ted Cavanagh)

"When we see characters do something in a panel, the processes in our brains unfold something like an imitation of these postures in motor sensory systems which prepare the action (but do not lead us to actually perform it), and we feel an echo of the character's experience. This has been discussed as 'embodied simulation' in the neurosciences."<sup>7</sup>

This form of recording design build projects encourages utilising voices of various characters. We construct a mental model of the characters (here we include the design/build project), the relations between them (designer, builder, user, bystander), and the events that affect them. It allows dotted voice balloons to show thoughts of the characters and it has a neutral or powerful announcer's voice. Other techniques emphasise voices in different ways such as bold text or jagged voice balloons. Facial expressions, bodily postures that go with them, communicate the mental states of characters to us.

We could infer the perception of the characters is interesting but no larger inference is intended. The

gap between the comic panels encourages the reader to create 'closure,' whether it is matter of fact or speculative. This act of completion by the reader is an effective technique of engagement.

Another perception of the form is depicted using some of the same images. This repetition suits the multiple and varied perception of the project. The social group moves from producers to users, still engaged in the project but at a distance beyond the construction fence. Multiple interpretations are highlighted by placing the two strips in parallel.

There are some proponents of the graphic novel with architectural content from the dreadful banality of the everyday life in a building by Chris Ware to the optimism of architecture as the future of storytelling by Bjarke Ingels.<sup>8</sup> What is being suggested here is filling the range between the two and concentrating on telling stories of the everyday that happen during the process of designing, building, and teaching.

This paper has introduced a research agenda building five similar projects in different contexts and in series involving both comparisons and an analysis of progression. It has argued for a process-based recording of data to encourage future and interdisciplinary research. In addition to scholarly output in other disciplines such as sociology, philosophy, evidence-based design, and anthropology, it has looked at the application of the principles of SCOT and ANT as an aid to architectural research.

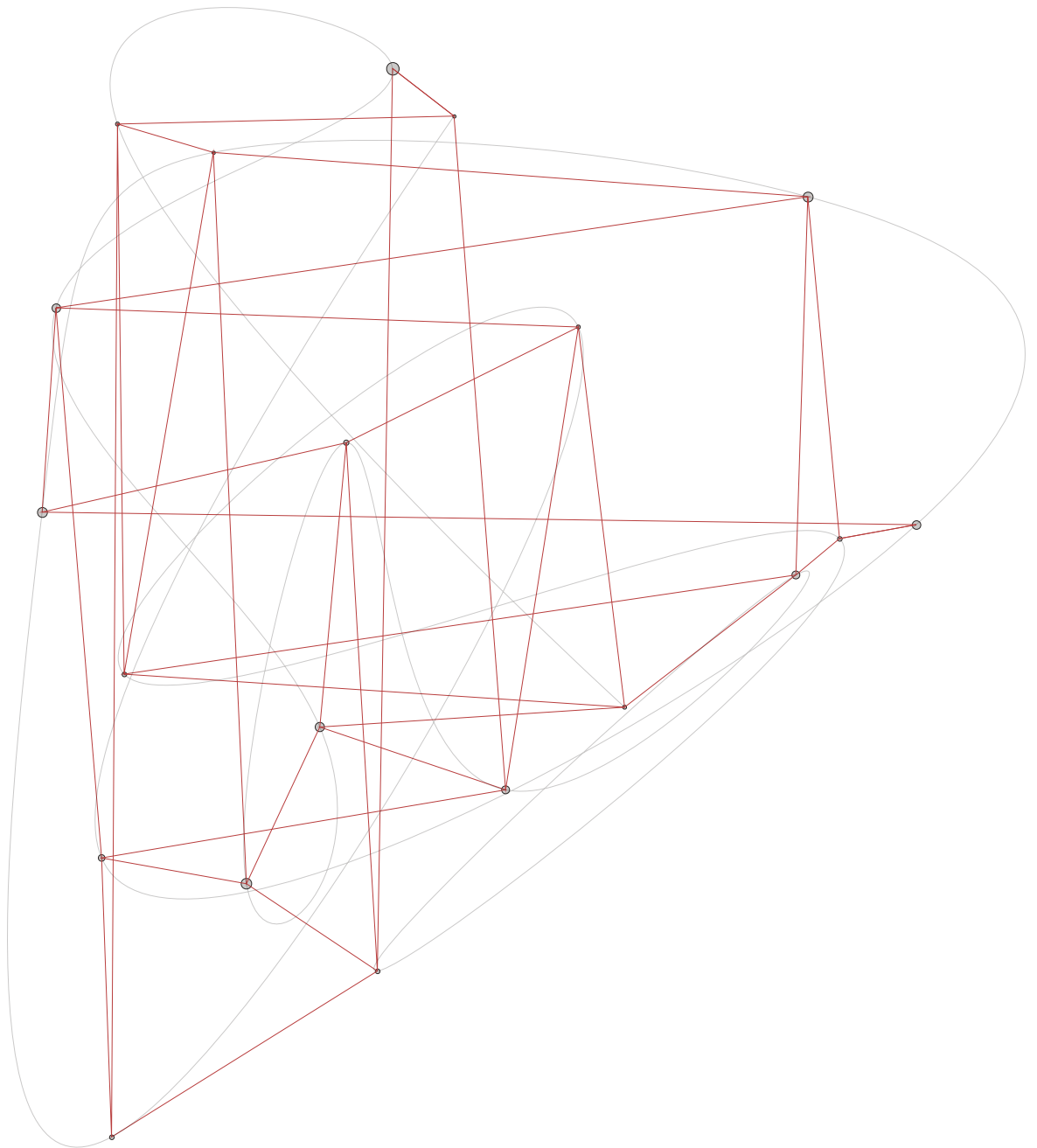
Some of the interactive and graphic outputs imagined include a network diagram of communication that through animation changes over time, reinforcing the process-based analysis of design/build projects. Another significant example is the use of the graphic novel formal which has incredible potential as a communication tool.



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## 2.6 AGILITY



# Twin needs of Students and Clients. Creating a Pedagogical Framework for Live Projects.

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## ABSTRACT

Construction of live projects at our university has increased significantly over the last four years. Introduced in 2013, year two undergraduate students have built over 70 real projects for clients, associated with technology teaching. These are furniture-scale projects typically for communities: benches, garden water collectors, etc. As a microcosm of larger real world counterparts, they are a testing ground for design strategies, and for discovering what works and what does not.

Challenges associated with these projects include (1) facilitating deeper, motivated, learning for students and also (2) meeting client needs. If not carefully choreographed, there can be tension between these two goals. Methodology followed, in order to understand both achievements in teaching and meeting client needs, has been a qualitative analysis of student, client, and tutor experience. Over the years, several changes have been introduced to improve connection between students and clients, a result of review and reflection each year, and an attempt to meet needs of both students (education) and clients (a useful product). Findings are outlined and discussed.

This paper focuses on how a good client relationship with students may contribute to both successful completion of live projects and the learning of students. It seeks to outline a useful pedagogical model for live projects that also benefits clients. Aims of the paper are to clarify the importance the client role, to understand how they can motivate learning, and identify implications for developing professionals for the real world.

**KEYWORDS** Agility, Co-production, Pedagogy, Responsibility

This paper addresses the important connection between an architect and a client, arguably the source of all architectural projects. Developing good relationships is important between the two parties and can, and arguably should, begin in architectural education. Live projects can be a key method of familiarising and educating both students and clients on what each has to offer the other, and the needs of both parties. This is currently a topical subject in the greater professional community; reports commissioned by the Royal Institute of British

Architects (RIBA) in 2015 and 2016, address issues relating to lack of client satisfaction with architects.<sup>1</sup>

This paper focuses on how a good client relationship with students may contribute to both successful completion of live projects and the learning of students. It seeks to outline a useful pedagogical model for live projects, which also benefits clients. The aims of the paper are to clarify the importance of the client role, and to understand how clients can motivate learning, and the implications for developing professionals for the real world.

The paper will examine pedagogical and logistical issues relating to live projects. First the survey methodology will be explained, then findings of surveys will be examined, highlighting key issues raised and how projects have evolved. From the most recent academic year, case studies are examined in depth comparing more and less successful projects. Projects with real clients and academic tutor –clients, are discussed highlighting differences between real world expectations, and the typical academic model for architectural study.

There are many other contributing variables to the success of a live project. By their nature they are complex. Projects being examined have the following variables that need consideration: site, programme, budget, tutor input, group size, group dynamics, client briefing, materials used, etc. However, the focus of this study will be on the client-student relationship, and how other factors may relate to that. The above-mentioned factors are useful for students to engage with, as they are found in projects in the real world, outside university.

Findings from Biggs and Tang, who discuss motivation in problem-based learning are relevant to live projects. Also, guidance on group working in live projects is helpful, from the Centre for Education and the Built Environment. Studies on personality profiling for construction industry team members from Childs, is useful for student group working.



Figure 1. Project Bark 1.0 made for Thrive/ RAW, Oxford in Autumn 2016 (image group A1)

At its best a good client-student relationship provides mutual learning, and is a motivator for students to excel. They become interested and learn for

the sake of learning, gaining reward from the results. The client will receive a project they are happy with, and may gain some unexpected results due to student creativity. At its worst both the students and clients are discouraged. The physical result is abandoned, or does not last long. The client loses money. The students will probably have learned something, but do not necessarily value or immediately recognise it, and may resent efforts made.

## Methodology

This paper is a result of a qualitative review of the projects over the years, using a mixture of questionnaires and interviews of clients, students, and tutors, to determine opinions on the live project process.

Live projects examined are part of the year two undergraduate curriculum for architecture and interior architecture students at Oxford Brookes School of Architecture. They are assessed coursework, a part of the compulsory technology module. In groups, students design and build small furniture-scale projects. Most are for real clients, with budgets. See Figure 1, an example project. Students are given a brief at the beginning of the Autumn semester, and put into groups. They assign themselves roles, paralleling a small professional design team (e.g. predefined roles of coordinator, health and safety, programmer, treasurer). They have a tutor facilitating their studies. The time period is approximately one month to complete the project and produce a report.

The projects were introduced to the course in 2013. Four years have been reviewed for this paper, academic years from 2013 to 2017, with more in-depth focus on the information gathered from the last two. Some of the most recent year's projects have been reviewed in more detail as case studies.

There were two main methods of gathering information for this study:

- Questionnaire survey to client and students- implemented face-to-face / telephone / email;
- Observations of tutors - implemented via telephone / email;

In the years being reviewed, questionnaires were sent to both clients and students of the 73 projects completed. In total 100 students and 18 clients responded. Feedback from students was collected shortly after the project was completed. Feedback

from clients and tutors was typically collected at the end of the course, or after the course was completed – allowing time for assessing how projects held up over time. Format and questions have varied slightly year to year, evolving over time in response to course and client needs. Based on analysis of the findings, four projects have been selected as case studies to examine in more depth.

### Findings

It should be noted that the sample groups are small, but this is being treated as a qualitative study. The information is useful for ascertaining themes emerging around client-student relationships and communication. Information collected on these relationships has been more focused for the last two years (academic years starting 2015 and 2016). For the last year, case studies have been selected and are discussed.

Each year changes were incorporated in an attempt to improve project outcomes for both client and students.

#### Year 1: 2013-2014

This was the first run of live projects in the module. A questionnaire survey was circulated to a focus group of 7 students. In response to the question ‘When were you the were most engaged’: 4 mentioned developing and constructing the design, 2 mentioned discussions with external parties, 2 mentioned group work, 1 said replicating construction methods. When asked ‘When were you most disengaged’: 3 were not disengaged, 1 said trying to build with large group, 1 said when they had to organise the material budget with the client.

All 5 clients returned feedback via survey questions, of 15 projects. Whilst students from the focus group enjoyed developing designs, important feedback from a frustrated client of this first year illustrates a disconnection between student and client:

*‘By not listening to what we said the whole project felt compromised. ... I felt like the students thought they knew better than the client.’*

A satisfied client, however mentioned good communication:

*‘The design [was] great the team had meetings with myself ... so that they had a very clear idea of what it was we wanted and delivered ... with a few added bonuses.’*

During this year, the tutor ‘facilitators’ were

the main client contact, which potentially created dissociation between client and students. These tutors were a mixture of design tutors, technical tutors, and external tutors who were only present for the live project sessions. In subsequent years different means of creating better communication with clients were attempted, as clients were key in providing briefs and funding the projects.

#### Year 2: 2014-2015

For this year, some changes were implemented, that may have affected client relationships: a 5% increase in the proportion of total mark made the project more important towards grades (project total 30% of mark); students were required to arrange a handover meeting and take note of client comments and include images of handover meeting in the report; an exercise was introduced where students were encouraged to reflect on previous year’s projects - including how the client brief was met; also at the first lecture, student advice from the previous cohort was shared including:

*‘treat it like a mini design project. Think of the clients [sic] needs as a priority.’*

For this year, there were both very successful and unsuccessful projects: one was shortlisted for a Camden Design Award but another was demolished, see Figure 2.

In a meeting with a small focus group of students, 7 responded to a survey. When asked when they were most engaged, 4/7 students mentioned interacting and designing for a client, 2/7 mentioned working as a team, and 1/7 mentioned meeting with a structural engineer. All appear to be inspired by good communication with others, especially with the client. Some of their advice to future students included: *‘get ideas to clients v. quickly...’* and *‘...talk to group frequently’*. However, when asked when they were disengaged 5/7 stated when the groups were not working smoothly.

Regarding client feedback (4/5 clients returned feedback via survey questions, 14 projects total) the most significant evidence of communication gone wrong between student group and client was the Wheelchair Planter project, demolished at the client’s expense. According to the client it was:

*‘not fit for purpose... the ply was delaminating and the structure...is showing signs of potential collapse...I expressed my reservations several times during the process.’*



According to the tutor, students were given advice on appropriate materials, of which the client approved. Also, unfortunately the structure was not erected by a key deadline - structural engineer inspection. Students proceeded with a design that was aesthetically interesting, without consideration of client, construction or structural needs. In contrast, the project shortlisted for an award had an excellent client-student relationship, so client concerns were met. One student summarised lessons learned:

*"Designs have to be adapted to meet specific structural requirements and health and safety regulations. ... I understand the importance of time management ... Budgets set by clients are very important".*



Figure 2. Top- demolished Wheelchair Planter, Bottom- shortlisted Bench Project, Built in Autumn 2014 (images: top Ilona Hay and bottom Woodpeckers)

### Year 3: 2015-16

A significant change this year was to assign two live projects to each design studio unit. This meant that the unit technical tutors attached to studios would be guiding students, providing continuity in teaching. Another change was further requirements

at the handover meeting: students must debrief the client and finalise accounts. Also, client feedback from the meeting was required in reports, in addition to images required previously. Partially due to previous students' request, live project proportion of assessment increased to 35% (up 5%).

Projects were found by the module leader, as done previously. Assessment was via presentation to the module leader and technical lead, also as previously.

Data from 2015-16 collected in student questionnaires indicates that over half the students, 29/54 who answered, felt empowered by client involvement in the projects. 15 were not empowered and 9 were unclear. For those who reported not feeling empowered, problems in communication with the client were the main problem mentioned (9), and the next problematic issue was low budget provided (2). Additionally, of students who were unclear, 2 mentioned that they enjoyed having a happy client, but there were communication problems. If client communication improved potentially 40/54 would have felt empowered (29 + 9 unhappy with communication problems + 2 happy but some communication problems).

For this year, 3/6 clients responded to a survey questionnaire circulated at the end of the year (21 projects total). This covers 8 projects, as some of these clients had multiple projects. Three themes emerged:

1. Architecture and design process: clients felt they should have been engaged with earlier to ensure results needed (2no.);
2. Community impact: they felt it was a good opportunity - locals were excited, and it was a learning curve in university collaboration;
3. Perception of University / students: appreciated the fresh ideas brought by students, and impressed with students' commitment, enthusiasm, and respectfulness.

### Year 4: 2016-17

The changes for this last year focused on improving client-student coordination, communication, and maintaining educational standards. Importantly, the unit technical tutors assessed students, rather than only the module leader and technical lead – intending to create closer connection facilitating guidance of students towards learning outcomes. Student peer review was introduced, where students marked each

other on participation (an individual component), to help focus on, and raise awareness of, importance of group work. The total live project mark became 40% of the mark, reflecting the amount of effort spent learning about construction. The assessed component was rebranded as a Client Package presented to tech tutors, and to be given to the client – to contain assembly diagrams and maintenance instructions. This has parallels to an Operations and Management Manual given to clients in real world scenarios. Submission requirements also include all previous ones: client comments and handover photos.

Another significant new development was the introduction of projects with tutor-clients who developed the brief, rather than only clients outside the architecture department. This will be explored in detail in the case studies.

Data collected in student questionnaires indicates that 19/32 of students who answered felt empowered by working with clients. 6 stated they did not feel empowered by this and 7 were unclear. Of the disempowered, at least half (3) mentioned they had problems with communication. Of those who were unclear some did not see their tutors as clients (those who were in groups with a tutor-client). Improved client communication would potentially boost reported empowerment to 22/32. More clarity about tutor role as client could further boost this.



Figure 3. Project Timber-to-Table made for Thrive/ RAW, Oxford in Autumn 2016 (image group D2)

Being the most recent year, all clients have not yet provided feedback. Of the 10 clients this year, 8 of them could be classified as ‘real’ clients with real

projects, and 2 as purely tutor-clients with briefs for hypothetical projects. From this year 4 projects, out of a total of 23, have been selected to discuss in more detail, relating to the findings above. These include 2 projects from a real client and 2 projects from a tutor/ design unit client. The discussion below, comparing results and experiences related to both real and tutor-clients, illustrates differences between ‘traditional’ tutor based teaching, and that of bringing external parties into the sphere of education – with real clients and external agendas.

#### *Year 4 – Case Study1 – RAW*

The client RAW (formerly Thrive) is an Oxford-based charity who sponsored the projects Bark 1.0 and Timber-to-Table (Figures 1 and 3). They are typical of a live project client in this course, being a community charity. They are somewhat more specialist, though, being in the business of making. They support and train in their workshops, people who face barriers to work, such as those with mental health issues or criminal histories.<sup>2</sup> For the project, they supplied materials, a budget for materials, allowed student access to their workshop facilities, and offered advice from in house carpenters and product designers.

In an interview with their Head of Operations, a trained product designer, Bark 1.0 was identified as a more successful product. The project met the client’s brief and needs, creating a prototype for a sleeping pod to be pulled by bicycle to a festival. Students made a special event of the handover, cycling over together to present the project. The client reported that there was very good communication with the team: they produced many options, arranged several meetings in advance, were open to discussion of ideas and receiving feedback, listened, closely and evolved the project creatively. They worked closely to the budget. She was impressed with how they worked as a team, within self-assigned roles, including having a good project manager. The client has kept this project as a prototype, and intends to develop it for production.

In terms of evaluation the students generally received very high marks, so not out of alignment with the client’s findings. Their technical tutor confirmed that they had a particularly good leader, who allowed all to contribute. They were very motivated and needed little prompting, only gentle steering.

The second real client project, Timber-to-Table,

whilst visually interesting and attractive, was not considered as successful by the client as the first. She confirmed that she felt it was a valuable exercise for the students though, as they did learn much from the process. The brief was to create tables from waste timber found in the workshop. The intention was that they could be sold in the shop to benefit the charity. Students created three tables. However, these were not considered suitable for sale – unfinished and not precise. Legs were not fixed, and there were problems with the resin finish. The client confirmed two of the tables have now been recycled, and the third is being used by the RAW team as a practical piece of furniture for their own facilities (the middle sized one being a useful size, was completed by RAW carpenters).



Figure 4. View-thru-Concrete, Oxford Built in Autumn 2016 (image group J1)

Issues outlined by the client include the following items. The team was not as organised as the first, with little structure. There were only three meetings, with the whole group attending only the last meeting. She reported that there was one idea and one drawing, with little iteration or experimentation. She noted that students skipped suggestions from meetings, and made products simpler than requested. Students were encouraged to read and research surface finish methods, but did not appear to do so. She gave specific advice about applying resin, from her own experience: students would have to apply a thin coat every 24 hours, as in the past she had rushed it, which resulted in surface cracking. If they had listened and planned, the

finish on the tables would have worked, and they would not have wasted time and effort.

Educationally, this group did fairly well, a mixture of good and excellent marks. This does seem out of sync with the client's assessment of the final product. However, it reflects the educational value of the process, how students met learning outcomes of the course which focuses on exploring materials and construction more than making a fit-for-purpose product for a client. Problems described could be attributed to time pressures, poor programming and poor communication – very real world problems.

#### *Year 4 – Case Study2 – Tutor Client*

This year design tutors acting as clients, were a new development in the module. In this section two projects with a tutor-client are compared and discussed. The design tutor set the brief for the projects. Thus there was a strong design focus, and pressure, that may not have been present with a non-academic client. The technical tutor guided students with their day-to-day technical queries, at planned sessions associated with the technology module. But students had the benefit of interest from the whole unit teaching team, comprised of three tutors: Unit leader who is the tutor-client, a second design tutor, and the technical tutor.

The two projects examined here are View-thru-Concrete and Anamorphic, see figures 4, and 5. The brief for both projects is the same: students were asked to design and cast artefacts to frame a view. This involved studying the site to locate where to cast an object, proposing how the view would be framed, and how the viewer would interact with the artefact. Materials (concrete, ply and fixings) were sourced and supplied by the Unit leader. Students were invited to utilise recycled materials. The project was presented as an integral part of the unit, also important for their design assessment and development.

While both projects were important in terms of students learning experience, and increasing their skill base, the project View-thru-Concrete was considered the more successful project, in terms of technology learning outcomes – and also design. This group designed an experience where viewers would have sit on a bench and see a selected view through vertical slots between concrete blocks. These blocks were cast onto reinforcement bars, anchored into concrete pad foundations underground. According to a design tutor



it ‘demonstrated a good level of both conceptual thinking and material making’.

The technical tutor attributed a large part of the success to do with the interpersonal relationships, rather than the project brief of client.

*“I don’t think it had anything to do with the project or the client, but instead had to do with interpersonal relationships.”*

They appeared to get along, and picked up the slack from less active members – with no ill will.

The second project, Anamorphic, involved experimentation from which students learned, but the result was not considered as strong from a technical point of view. Two frames were created: each frame had a column of hollow concrete blocks slotted vertically onto rebars. Each column had a horizontal and vertical tube attached, to create a frame. The design intent was for a viewer to be positioned 10m back from a viewport created by the two frames visually intersecting.

According to the technical tutor:

*“In general, the concept was interesting, though more effort could have been given to a more thorough and detailed execution of the idea.”*

The poles that were key to creating a frame for the view, were made from an inappropriate material – PVC tubes – with concrete cast inside that causing bending. The tubes were painted black for solely aesthetic reasons and to hide defects. Testing in advance, or using a more rigid self-coloured material (e.g. rebars, or copper pipes) may have been more successful. There was not enough testing of structural components. And *‘the assembly design and execution was not well thought through and did not take in to consideration the nature of the materials being used’*.

This group reportedly did not work well together there were two strong voices that could not reconcile – one of them removed themselves and did not participate as a result. Speculatively, as there was no client, there potentially no ‘larger’ binding agent to motivate the students to overcome differences to please an external body.

## Discussion

Live projects have great potential to become a place for students to learn skills in working in the real world, perhaps most importantly to give students client facing skills. They can also be a means of letting the public – in the form of community clients – understand the

potential of architects.

In section 1, experience of real clients is compared to that of tutor-clients. In section 2, live projects and student motivation is discussed. In section 3, group working and preparation for professional skills is discussed.



Figure 5. Anamorphic, Oxford. Built in Autumn 2016 (image by group J2)

## 1 Client Needs

### a) Real Client

While this studies’ survey numbers are relatively small, resultant trends over four years are similar to a much larger survey conducted by the RIBA regarding client needs. There is a need for educating architectural designers to meet client requirements.

In 2015, the RIBA produced its initial ‘Client & Architect’ report. This is the result of a survey of just under 1000 clients, where they rated how satisfied they were with a completed project, particularly the performance of the architect. From the report:

*“Clients across the board were more satisfied with the design aspects of their completed project than with architects’ process management”.*<sup>3</sup>

This reflects some findings from course surveys discussed in the previous section; clients were typically happy with innovation and design aspects of student projects.

In December 2016, the RIBA Journal reported the first key finding from phase two of the client satisfaction:

*“architects are rated mediocre in the way they go about their work. The critical measures – commercial understanding, keeping to the programme, managing their work, admin, collaboration, technical design spec.... – are all significantly less good than those for design performance.”*<sup>4</sup>

All these items, are reported by the client RAW, as reasons for dissatisfaction. The Timber-to-Table group was especially poor in commercial understanding (wasting material/ potential income), and technical design specification (ineffective finish). The success of the Bark 1.0 group is their engagement with critical measures identified above, being especially good at managing work and collaboration.

The RIBA report also alludes to satisfaction from communication, the second key finding of phase two of their survey:

*"clients love it when architects follow up even when they are not contracted to do so. The effect is disproportionate to clients' overall satisfaction with architects' work."*<sup>5</sup>

As revealed in the Findings section above, a key to client satisfaction is good communication. RAW was not the only client to reflect this need. Another client from this year noted:

*"The project ... was great... was innovative. Some more communication during the design phase would be good in future".*

#### **b) Tutor Client**

Projects with tutors who act as clients follow a more traditional studio model, where the design tutor is the authority, sets the brief, and marks the design. This is potentially comfortable model for students (and tutors) who have experienced this pedagogic method previously. The 'client's need fits the studio brief. Design quality will generally be high on the agenda.

Greater tutor attention and control can result in better integration of design and technology. One tutor felt *"the quality of the live projects has been higher and more easily related to the technology aspects of the students studio projects."* Students explored and experimented with appropriate materials. It is good progress that technology is being integrated with design, and is an aim of the course. This is success in the area classified as *technical design spec*, identified as problematic in the RIBA survey.

Looking towards training future design professionals, the RIBA survey revealed that clients are happy with design skills – typically developed in university studios - but less happy with other aspects of getting a project built including skill with budget, programming, managing work, administration, and collaboration.

Currently with the tutor-client experience there is lost opportunity for managing budgets. This also puts stress on students to fund or find suitable recycled materials to achieve a suitable build quality:

*"Not having true independent clients for the making project did lead to some concern regarding the cost and funding the final fabrication".*

There is also missed opportunity to develop briefs meeting client needs other than design. Along with this is potential loss of sense of importance and responsibility that comes from making something that will be used in the real world. According to a tutor:

*"the 'client' role within the unit may not encourage as much of a sense of accountability ...as in external projects and is something we need to work on".*

Both technical tutors reported that group working was the main problem with their tutor-client projects. Poor group working can be linked to areas highlighted by the RIBA as unsatisfactory to clients, affecting: programming, managing work, administration, and collaboration.

## **2. Student Motivation**

#### **a) Real Client**

Live projects can contribute to Intrinsic Learning. This is deep learning, rather than surface or rote where students are motivated to learn because they are interested in the activity. There is an internal or intellectual reward and pleasure from problem solving.<sup>6</sup> Real clients and projects can cultivate a sense of responsibility, and importantly for learning, a real interest in the topic.

According to Biggs and Tang, there are two factors that make students *'want to learn something'*:

1. *It has to be important; it must have some value to the learner.*
2. *The learner needs to expect success when engaging the learning task'.<sup>7</sup>*

Real life problems can be interpreted by students as being more important, compared to 'made up' exercises. If students are coached and given confidence, and enough time, or what considered important for the project completion, they can expect success.

Comments from students who felt empowered and engaged, 2016-17, included elements of both importance and potential success of projects. An example comment:



*"It was a pleasant experience to be working on a real project that might be mass produced ... client was enthusiastic ... client had made provisions for us."*

This student expresses both a feeling of project importance, through future use, and expectation success, via support of the client.

It cannot be assumed all students will feel live projects with real clients are important. With some projects, there was a risk that students felt the live projects were not important, because they were classifying them as a part of technology, and not design—the latter course can be considered more important by some. Further, if design tutors are not involved, students can be demotivated:

*"we were given such a mechanical project which has no relevance to design—as this is what the client wanted—but not useful to us".*

Communicating to students the importance of material connection and detailing to design, by design tutors may help with motivation.

Tutors can also play a role in relaying the importance of a project, and helping students to achieve success. *'For the live project our first tutor did not know what we had to do for the assessment.'* It is key that tutors are engaged, and well briefed on the learning outcomes.

Having a real client can also demotivate in terms of expecting success, for example if the projects are not going to be used, or if communication breaks down. Many of the negative comments came from students not expecting success, who were originally motivated. Some answers to the question as to whether the experience was positive or negative:

1. *"Positive at first- but would be good to know product has been used rather than just sat somewhere"*
2. *Positive but also negative. Communication with the client was weak".*

#### **b) Tutor Client**

As noted previously, student motivation includes both having a sense that something is important, and that there is a chance of succeeding.

A sense of importance with the tutor-client model is built into the marking system, and tradition, at university. Design is allocated a higher percentage of the overall yearly mark, than technical studies. Students with tutor-clients are potentially evaluated on their projects through two modules. Live projects,

as a part of the design mark have a high value to a student's overall GPA. This is in addition to the mark's value as a part of their technical studies course.

Having no 'real' client, however, can potentially communicate that the project is not as important as projects with real clients. Some students reported disappointment:

1. *"We had no client. ... I would have liked to have a client to actually experience it"*
2. *I did not have a proper client, I would rather have had one, I think this would have helped me learn about [design process and practical needs]"*

This highlights missing professional practice experience such as brief development and collaboration.

One technical tutor reported a problem of lack of 'accountability' – implying a lack of importance of the work, as it will not be used by anyone:

*"the 'client' role within the unit may not encourage as much of a sense of accountability on the part of the students as an external projects and is something we need to work on."*

In tutor-client groups this year, there was support from three tutors: two design, one technical. This brings the focus and resources available to design units, to live projects, potentially contributing to increased expectation of success. With tutors who are also programming the design course, there is better potential to respond to the speed of group learning. A lay client would not typically have the skill to adapt their need of a practical brief to meet pedagogic needs. With such tutor support, chances of success is increased.

### **3. Group Work and the Real World**

For both real and tutor-clients issues of group work were raised. Many group issues are linked to communication skills needed in the real world.

Poor group organisation, communication, and mismanagement of programme, could play a role in decreasing student views of chances of success. By consciously facilitating group working, such issues can be minimised. A Centre for Education in the Built Environment guide on Live Projects, suggests the following relevant teaching methods: provide group working workshops, expose relations of domination, determine group work protocol, hand over as much responsibility to students as possible, work with

students as part of a team.<sup>8</sup>

Especially in tutor-client groups, group work was mentioned as a problematic, perhaps accentuated because there was no external client to focus on. Students can be taught how to work more efficiently in groups, utilising the benefit of 'many heads'. Changing students' views of what success is may help. One tutor-client observed large groups and small scale projects can be problematic:

*"stemming from the size of the groups is some loss to the sense of ownership ... which was clearly evident in the final portfolios".*

Typically university students are marked on individual work, and rewarded for their own efforts. If they feel they have no control, they may consider their own contribution as not successful. Increasing their sense of ownership may come about by having smaller groups, increasing expectation of success.

Teaching students about how groups work in offices would give them a sense that group work can be successful. Identifying personality traits needed in groups, and involving students in this evaluation could be useful. A tutor-client observed: *"It would have been useful to have known the students for a couple of weeks so as to match them up better"*. A technical tutor with a tutor-client group observed that live projects are a chance for students to shine in different areas – some students who typically do not do well in design or academic work, may be exceptional in groups. He suggested that, as adopted by more practices now, a personality test would be useful in forming groups.

*"the engagement of a few in the group can be infectious and help all. The usual balance of group personality types; leader, researcher, communicator, etc. all helps."*

In a 2015 study on personality profiling in the construction industry found that personality profiles were useful to *"understand employees and matching the employee's skills and characteristics to the culture and positions"*.<sup>9</sup> Student teams could mirror this model, agreeing as a group and assigning suitable positions once profiled. This would help with improving client satisfaction, by having team-members in appropriate roles, and better communicating. In the study 17 types of tests were identified - the suitable type of test would need to be identified.

Interestingly, students could also profile the client, as one company in the US does:

*"The team would meet and discuss the personality of the client to identify their characteristics.... they would address issues that could arise and how they could prevent or overcome those issues."*<sup>10</sup>

Students would be paralleling a real scenario, and learning useful skills for future careers, improving communication and understanding of clients.

## Conclusion

*"my live project was successful because the team was balanced with people happy to do the variety of tasks... As well ... the client was responsive with feedback and the fact it was for a real community was definitely inspiring and motivating. Group work when there wasn't a real client was so much harder to navigate because people had vastly different ideas with less real parameters to guide to the best outcome."*

This summary, by a graduate of the programme, explains why her live project was successful – it was shortlisted for the 2015 Camden Design Awards. Highlighted are important points found in this paper regarding live projects at university, relating to the importance of the client role, motivation and learning, and finally, in developing architectural professionals for real world teamwork.

Real clients can be extremely useful in contributing to university architectural education. They have specific needs to be met, set by their own agendas and can benefit from student innovation. The reality of their needs in turn motivates students. Students gain useful practice for their future professional life – learning to meet essential criteria identified by the RIBA. Good communication is important to keep real clients happy, but to also keep students satisfied and moving forward.

Tutor-clients have the benefit of bringing the teaching support of the design studio to live projects. They are also more flexible in meeting learning needs in terms of programme and complexity. As the focus on a real client is missing as a group 'galvaniser', there is danger of loss of accountability. Group working, then, can become a focus of discontent – and attempts should be made to better coach students in this.

It is ideal for students to be motivated to engage with their learning, to learn because they are intrinsically interested. To do this, projects should be perceived as both important and having a chance of being successful. Contributing to importance,

real clients have the benefit of offering projects that will be used in the real world. Tutor-clients offer the importance and prestige of the design studio. To ensure success, communication is especially important for both real clients and group working. Groups working smoothly has been identified as important to success, especially in the absence of a real client.

In preparing students for the professional world, live projects are an extremely valuable pedagogic tool. They can give students the agility to adapt to working in offices, upon graduation. They provide practice in using client relevant skills- identified as found lacking in architects by the RIBA. In fact by having experience in areas of budget, programming, managing work, administration, and collaboration, students gain employment advantage others who did not have such experience. Additionally, by engaging in evaluation of personality traits needed in teams, they can become responsible for their own success. Through this they can appreciate the importance of co-production, an essential part of working in the construction industry, contributing to the success or failure of projects.

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# An exploration of Socratic learning in a webinar setting.

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## ABSTRACT

Although digital technologies have started to impact the architecture studio, this field is largely under-researched. Limited empirical results are available on Socratic learning, enabled by student-tutor interactions in the crit, especially associated with the synchronous online studio. This study is situated in a blended undergraduate programme in architecture at a University of Technology in South Africa. The part-time programme was designed to broaden access to the architectural profession, by enabling previously disadvantaged and non-traditional working students to upgrade their qualifications, through a blend of office-based mentorship, on-campus blocks and online learning. The aim of this research was to explore the student-tutor interaction in the live online crit, facilitated via a webinar platform. A better understanding is needed of how Socratic learning is mediated between the concrete and the abstract, to address challenges in the studio related to increased student numbers, diversification of the student body and utilisation of available learning technologies.<sup>1</sup> Drawing on learning design, online learning, Socratic learning and design critique literature by Laurillard,<sup>2</sup> Gunawardena,<sup>3</sup> Lam<sup>4</sup> and Blair<sup>5</sup> respectively, four modes of student-tutor interaction were identified. These are Negotiation, Exploration, Application and Reflection (NEAR). A focus group interview of recent graduates and three online crit protocols provided the data. All four modes of interaction were found in the focus group interview and observed in the live online crits. The data was thematically analysed and the crit protocol analyses were translated in notations to visualise the student-tutor interactions. The crit notations, read in relation to the graduates' reporting, revealed patterns of interaction and insights about which party took the lead (the student or the tutor) and when, how the use of media impacted on the learning episodes, how the modes of interaction were sequenced in the live online crits, and how and when the most valuable learning interactions occurred.

**KEYWORDS** student-tutor interaction, Socratic learning, design studio, crits, online learning

## Background

Design expertise is acquired through the application of theory in practice and involving elements of design thinking and design making.<sup>6</sup> The practice through which this learning is facilitated, the studio critique, also known as the crit or design review,<sup>7</sup> is 'characterised by the Socratic traditions of

lively and robust questioning and discussion between students and teachers'.<sup>8</sup> Although the term 'crit' carries a negative connotation,<sup>9</sup> I chose to use it because it is widely accepted and recognised in architectural education and practice. The crit takes on many forms, including the desk crit, pin up crit, group crit and other;<sup>10</sup> and modes, including face to face and online, in

real-time (synchronous) or over time (asynchronous), and involving different parties and media.<sup>11</sup> Research by Finkelstein,<sup>12</sup> Pilkington,<sup>13</sup> Ng,<sup>14</sup> Cornelius and Gordon<sup>15</sup> and Cornelius<sup>16</sup> address the online crit, but these are mainly focused on asynchronous interactions. There is limited scholarly discussion on the character of the interaction between students and tutors,<sup>17</sup> especially online. Existing research on studio interactions either focus on the design process, for example Goldschmidt's Linkography,<sup>18</sup> that shows the links between design ideas, or the crit content, like Anwar's Cognitive Interaction Matrix,<sup>19</sup> rather than the modes of student-tutor interaction specifically.

The crit setting that forms the focus of this study, is the webinar. The word, 'webinar,' is derived from 'web-seminar', and it is a synchronous online presentation, seminar, lecture or workshop<sup>20</sup> that comprises of visual and audio components. Although peer to peer learning is acknowledged as a valuable component of the studio, this study focuses on the important<sup>21</sup> learning interactions between the student and the tutor.

### Conceptual framework

I drew on literature linked to conversational learning to identify four modes of interaction, namely *Negotiation, Exploration, Application and Reflection* (NEAR). The first three were borrowed from Gunawardena<sup>22</sup> and the fourth from Blair<sup>23</sup> (see table 1). I adapted Laurillard's Conversational Framework<sup>24</sup> with reference to research by Gunawardena,<sup>25</sup> Blair<sup>26</sup> and Lam.<sup>27</sup> Laurillard's Conversational Framework contains four communication forms including discussion, adaption, reflection and interaction. These operate on two levels, the discursive and the experiential.<sup>28</sup> The discursive is for articulating and discussing theory, ideas, concepts and forms of representation and the experiential provides for acting on the world, experimenting and practicing on goal-oriented tasks. As part of an iterative learning process, concepts are built through reflection on practice and concepts are tested through exploration of theory. Laurillard<sup>29</sup> posits that, for learning to happen, students need to constantly move from the concrete to the abstract and back again. Gunawardena et al.<sup>30</sup> identified five phases of online interaction, including sharing/comparing of information; discovery and exploration of dissonance or inconsistency among ideas, concepts, or statements; negotiation of

meaning/co-construction of knowledge; testing and modification of proposed synthesis or co-construction; and agreement statement(s)/applications of newly-constructed meaning. Blair's<sup>31</sup> eight crit functions are sharing, explanation, presentation, clarification, simulation, feedback, reflection and critical analysis. Finally, Lam<sup>32</sup> describes the Socratic Learning Method, a constructivist learning approach that involves a series of asking and answering questions to stimulate critical thinking and to draw out ideas and assumptions. It comprises four critical steps, namely 'eliciting preconceptions', 'clarifying preconceptions', 'testing hypotheses' and 'deciding to accept the hypotheses' or not. A question is asked, followed by the formulation of a hypothesis that is tested, accepted or rejected and then acted accordingly.<sup>33</sup>









Gunawardena et al 1998	Blair 2006	Lam 2011	Laurillard 2002	This study		
Online interaction	Formative assessment in design	Socratic Learning Method	Conversational framework	Student-tutor interaction		
Phases	Crit functions	Steps	Communication forms	Modes of interaction	Student	Tutor
DISCURSIVE LEVEL						
Sharing/ Comparing Negotiation	Explanation Presentation Clarification Sharing	Clarify	Discussion	Negotiation Theory		
Discovery/ Exploration Testing	-	Test	Adaption	Exploration Test concept		
EXPERIENTIAL LEVEL						
Agreement/ Application	Simulation	Decide	Interaction	Application Practice		
-	Feedback Reflection Critical analysis	Elicit	Reflection	Reflection Build concept		

Table 1. Conceptual framework and crit notation key (Author)

### Methodology

The main research question was 'how do students and tutors interact in the live online crit?' A focus group interview of recent graduates and three online crit protocols were thematically coded, using the four modes of interaction generated from the literature (see table 1).

A 90-minute focus group interview was conducted with five out of a total of thirteen 2015 graduates (A to E), using Blair's<sup>34</sup> open-ended questions, including questions on the purpose and value of the crit. Three crit protocols (see figure 1) of 2016 year-1 students (C1-C3) were transcribed and thematically analysed,<sup>35</sup> first in Excel and then using Atlas.ti7. Then the findings were translated in a graphic notation to visualise the modes of student-tutor interaction, for each of the three crit protocols (see figure 2).

Read from left to right, they show the (numerical) turns grouped in (alphabetical) episodes that relate



to the modes of interaction of the student (shown in black) and tutor (shown in grey), respectively. Participant (titled 'person') roles are shown as 'S' (Student), 'T1' (Tutor 1) and T2 (Tutor 2). A turn is not related to a unit of time, but, instead, corresponds with Goldschmidt's definition of a unit, namely that 'a unit comprises the spoken output, or verbalisation, of each of the participants (teacher and student), until the other party takes a turn in speaking.'<sup>36</sup> For every turn, the most prominent thematic code was assigned. An episode is a series of turns that display similar characteristics. On the notation a dotted line separates the experiential mode from the discursive mode of the online student-tutor interaction. The discursive is shown above the line because it denotes theory and abstract concepts and the experiential below the line, associated with the concrete, implementation and praxis. *Negotiation* (on the discursive level) appears as a rectangle above the line and *Application* (on the experiential level) is shown as a rectangle below the line, in grey or black, depending on whose turn it is. Movement between the discursive and the experiential is shown with an L-form turning up for *Reflection* and down for *Exploration*. The on-screen marking and drawing activity is represented by hollow dots to show changes in on-screen images, and solid dots to indicate on-screen markings or drawing.

I am the University coordinator of the part-time programme and to perform this research, I acted as participant observer. This means that a degree of subjectivity was inevitable. However, it equipped me with valuable perspectives and insights.<sup>37</sup> Verification strategies that I employed, include triangulation using multiple data sources namely a focus group interview and crit protocol analyses; and peer review by a colleague not involved in the programme, who checked the research process and coding samples. Furthermore, to balance my input as a tutor in the crits, another colleague performed the role of tutor 1. The three crits were selected through convenience sampling<sup>38</sup> for collecting qualitative data. The focus group interview with recent graduates revealed how they experienced the online crits, and the protocol analyses<sup>39</sup> shed light on the nature of the interactions between the student and the tutor.

### The Crit Cases

The two-year blended undergraduate programme is offered through a university-industry collaboration, implemented to address demographic transformation in the architectural profession.<sup>40</sup> It is aimed at working individuals who have been unable to complete their studies, due to financial reasons or life commitments, and those who have been excluded from higher education in the past. The students are based in architectural workplaces that are spread across South Africa and neighbouring countries of Namibia and Zimbabwe.



Figure 1. Screenshots of Crits 1, 2, and 3, from left to right (Author)

The learning design comprises office-based mentoring, occasional on-campus blocks and online learning facilitated in formal and informal online spaces, both synchronous (real time) and asynchronous (over time). Social and informal online platforms are set up in Facebook and Pinterest, and student-only WhatsApp year groups serve as private back channels. A SharePoint site, referred to by the students as 'the portal', contains organisational information such as study guides, institutional rules and regulations, a calendar and announcements.<sup>41</sup> Learning content is provided through interactive project briefs, recorded lectures, class notes, and video and text-based resources. The portal also houses student assignment uploads, online written and graphic feedback by tutors, record of student grades and online crit recordings. Google documents, linked from the portal, host ongoing individual student design journal updates, for feedback by tutors, in written and graphic formats.

Every fortnight a group of about ten students per one-hour session meet, with one or two tutors online, in a virtual GoToWebinar space. Students upload their work, in pdf format, to the portal on the Monday preceding the online crits that take place on Tuesday and Wednesday afternoons. A webinar link is sent to students by e mail the day before and can be accessed using a PC, laptop, tablet or smartphone, with a headset. To save time, the lead tutor shares the student work on her screen, visible to all crit participants, and

the student whose work is being reviewed, directs the tutor to advance the slides as needed. The webcam is not used. Students and tutors are given virtual pens of different colours to point and create on-screen markings and diagrams on work displayed on the screen.

The webinar text chat is used for comments, written input and feedback by students and tutors, and to share links to support material, including blogs and websites. These inputs were minimal in the crits that were studied, and they were therefore not included in the study. The online crits are automatically recorded and made available to students to view in mp4 format, soon after the crits are concluded.

The three crits of between 20 and 30 minutes' duration each, addressed individual project work generated by three year-1 part-time students respectively (see figure 1). The project is a small-scale intervention in the urban landscape of the Cape Town CBD. The aim of the project was to develop fundamental design principles and understanding of design process by employing a conceptual idea to generate a design proposal, and to communicate it appropriately. The project was completed in two parts. The first part was done as a vertical studio project during the first on-campus block for the year, with one year-2 and two year-1 students allocated per group. Each group was assigned a conceptual spatial idea that was generated through readings by the year-2 student in the group, in preparation for the on-campus block. Each group was required to find a space in the city that could be modified employing the allocated conceptual idea. The intention was that space-defining elements would be manipulated in accordance with the selected spatial concept. The single project outcome per group comprised of diagrams, freehand sketches and a conceptual model.

The second part of the project involved individual work. Year-1 students were required to develop the group project in the two weeks following the on-campus block, supported by their workplace mentors and facilitated online by their tutors. They had to record their design process in an online design journal, and participate in two online crits. The crit session that forms the focus of this study, was the last crit before the project submission. The final submission of individual work contained a clear representation of the allocated spatial concept, details of and the reasons for the site

selection, the student's personal response to the group proposal, the nature and qualities of the intended spatial experience and at least one appropriate conceptual precedent. This was presented in the form of a short motivation explaining the design strategy, diagrams, sketches and at least one 1:200 concept model.

Below follows an overview of the design intent of each of the three projects and a summary of each respective crit (episodes indicated in brackets), illustrated as notations in figure 2.

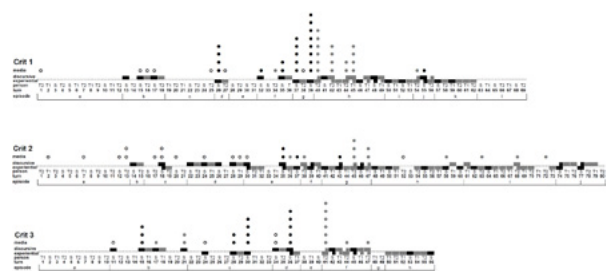


Figure 2. Crit notations (Author)

### Crit 1: Architecture and human senses

Student C1's chosen site was a small public square. His design intent was to provide a range of spatial and sensory experiences through guiding the users' movement. The crit material contains mainly freehand sketches with annotations, and a photo of the conceptual model (refer to figure 1: image on the left). The crit comprises 69 turns, visualised in episodes a to l (see figure 2: top notation). The slides contain text and images, including precedent research, sketches and a photo of the conceptual model.

The crit starts with greetings and a brief social conversation (a), followed by the student's project presentation (b). He refers to the images, explaining the background to the project, design influences and conceptual idea. Other than advancing the pdf slides and acknowledging his presentation, the tutors don't give any feedback at first. Then the student stops the presentation and turns to the tutors to find a pen and to move to the next slide in the presentation (c). He continues, but now focusing on the application of his ideas (d), whilst making use of on-screen drawing. After another short interruption to find the right drawing (e), he continues to elaborate on the conceptual aspects of the project (f), followed by a further explanation of the application of the design

intent (g). At this point the tutors join in with feedback alternating between the concrete and the abstract. During this up and down weaving between practice and theory, there's a lot of on-screen marking and sketching activity. The next phase involves a focus on the application of concepts (i and k), with only one short reference to theory (j), again with on-screen sketching. The crit ends with a brief period of social exchange (l).

### Crit 2: Pathways and planes

Student C2's project is located in the busy Cape Town railway station precinct. The design intent for this project was to employ pathways and planes to enhance the experience of movement and rest and for the gathering and dispersal of commuters. Overhead planes define informal market spaces that also frame Table Mountain views. The largest part of the crit focuses on the three-dimensional exploration through discussion of the physical models (refer to figure 1: image in the centre). The crit contains 80 turns, visualised in episodes a to j (refer to figure 2: notation in the centre).

The crit starts with a social phase and introduction about the crit process and the student testing the on-screen drawing tool (a). C2 starts to explain the context of his project in relation to the group project, the influences on the project, moving from slide to slide, but without on-screen drawing (b). The tutors give minimal input, but compliment the student on his use of several cardboard models for design exploration, in-between finding the relevant slides (c to f). He then moves from the theory to describe the application of theory, using the on-screen drawing tool (g). The tutors join in, first prompting the student for further explanation and clarification on his design decisions related to scale and then moving the discourse up and down between theory and practice (h), using images of the models and on-screen drawing. The remainder of the crit is focused on practice (i), with occasional references to theory to justify design decisions (j). The final stage of the crit revolves around the value of the model as design tool (k), after which the crit is concluded (l).

### Crit 3: Duality

Student C3 employed the concept of duality to remodel an existing urban flower market space in a heritage area. His design intent was to introduce a

sense of intimacy, bring nature back into the city and create opportunity for rest. He tried this by inserting a glass box between two historic buildings, visualising a quiet and intimate elevated sanctuary in a noisy urban space.

The presentation contains text and images, including precedent research, sketches and several photos of models of conceptual alternatives (refer to figure 1: image on the right). The largest part of the crit focuses on the three-dimensional exploration through discussion of the physical models. The crit contains 56 turns, visualised in episodes a to h (see figure 2: notation at the bottom).

The crit starts with greetings and finding the right starting place (a), followed by the student explaining the design concept and design informants (b), using the on-screen drawing tool. Short interruptions occur for the advancement of slides and navigating the material. The student continues with an explanation of the practical implementation of his ideas (c), whilst still using the drawing tool. The final phase of his presentation starts by focusing on the theory (d), followed by a demonstration (e) of how he implemented the theoretical ideas generated from the precedent. After a short social break interspersed with tutors' compliments, the tutor moves the discourse back to the conceptual level (f) with up and down movements between the theory and practice aspects of the project. After another short navigation phase (g) the crit ends with practical tips and encouragement by the tutor (h).

### Modes of student-tutor interaction

All four modes of interaction, *Negotiation*, *Exploration*, *Application* and *Reflection* (see table 1) were identified in the focus group interview and observed in the three crit protocol transcripts. Although it was possible to assign one of the four modes to each turn, in some cases more than one mode could apply and the boundaries between different modes were not definitive.

On the discursive level, I used Negotiation<sup>42</sup> to describe the mode of interaction used for the clarification of preconceptions<sup>43</sup> and negotiating understanding of theory.<sup>44</sup>

In the crit visualisations, the Negotiation mode of interaction mostly occurred during the first half of the crits and was often accompanied by on-screen

marking. Although the main purpose of the student's presentation is to elicit feedback from the tutors and peers, articulating understanding helps the student with sense-making, as described by graduates E, A and B:

*"Sometimes you understand something, you worked it out a million times in your head, and you understand it, but the next person doesn't understand it as well as you do, and you sometimes think the person will understand it easily, but you need to, when you present your work, you sort of need to take a step back, and think how will another person look at this and read it". (E)*

*"Sometimes it is the opposite. You don't understand your work and then, as you're talking, you're like, okay... now I have to do that and I have to do that." (A)*

*"That's true. Saying it out loud is different to just sitting behind your work and just drawing. If you say it out loud, sometimes it just makes sense or doesn't and then you have to start over." (B)*

I found that the Negotiation mode of interaction was dominated by the student articulating concepts, rather than the tutors explaining content, from which I could infer that this mode was characterised by student presentation<sup>45</sup> as observed in Crit 1:

*"So basically, like I said there, the spatial design and the concept is enhancing the human senses by moving through spaces. The idea of using architectural and natural elements to enhance certain human senses by manipulating form and function. So that's the spatial design concept." (C1, Crit 1, turn 13)*

In this mode, the student often makes use of the on-screen pointing and marking tool to support his verbal presentation. The tutor's responses are brief and mainly involve confirmation, acknowledgement of the student's presentation, hints and occasional compliments:

*"Nice sketches." (T1, Crit 2, turn 25)*

I used Exploration to identify the interaction that involves the student testing hypotheses or encountered propositions of concepts,<sup>46</sup> and the tutor, in turn, modelling it. Exploration moves the discourse 'down' towards the experiential level.<sup>47</sup> The tutor models the testing of design alternatives or prompts the student to do so, as suggested by graduate B:

*"It was something that Tutor 1 or Tutor 3 said. They just said: 'but why not do whatever and at that moment when they said that, I thought, well flip! Why didn't I think about that? [...]' It was a question. Like most of the*

*input in the crits will be questions." (B)*

Exploration is present in all three crits, and for both tutors and students. In two of the three crits (1 and 3) Exploration occurs only in the second half of the crit, and concentrated in two episodes. In Crit 1 it occurs in episodes h and j and in Crit 3 in episodes e and f. In Crit 2 Exploration instances are spread more evenly through the crit, starting in episode c. It is often accompanied by on-screen pointing and marking, by both the student and the tutor. Student C3's consideration of alternative flower display arrangements, below, is an example of this mode of interaction:

*"I think that you see a lot of flowers hanging from those flower-hanging walls and types of stuff where they can maybe mount the buckets with the flowers and stuff and because they have plenty of flowers [on the] underneath, I'm not even sure if they have enough space, just like that. So, if we make layers and they can add it, like maybe it high and let's say higher, or how can I say it? Ja, like just higher levels of flowers and people can look actually at more flowers than just the ones on the ground". (C3, Crit 3, turn 42)*

T1 models Exploration by suggesting C2 considers different scenarios (Crit 2):

*"So, what would happen early in the morning when everyone's rushing out of the station to go to work? What happens when everyone's coming back from work and trying to get on the trains? What happens at midday? What happens on a Saturday afternoon? What happens on a Friday night? You know, just maybe run a couple of scenarios where you could demonstrate how those spaces could be appropriated for different uses at different times by different people." (T1, Crit 2, turn 61)*

In the three crit protocols, Exploration displays as the testing of ideas, as suggested by Gunawardena<sup>48</sup> and Lam.<sup>49</sup> On the experiential level, Application is associated with 'deciding whether or not to accept the hypothesis.'<sup>50</sup> In these crit protocols, Application involves the implementation of design decisions, by the student showing the tutor how he decided to act on his theoretical understanding in preparation of the crit, for example:

*"I was playing with different materials. I've moved from wood to steel to concrete to platted elements to allow mottled sunlight through. I'm still working through the different aspects and results and of what, if I choose a material what will happen in the site?" (C2, Crit 2, turn 55)*



Or in response to the tutor's questions or feedback in the crit:

*"All right. Can you talk a little bit about the overhead planes, the roof elements that you're making?" (T2, Crit 2, turn 54)*

The tutor responds with feedback and suggestions and prompts the student to clarify or explain:

*"Okay, that height was, I think, 2.7 [metres] because the height at the back there [student marking in red] was 4 or 3 [metres], sorry. So it was just lower." (C2, Crit 2, turn 37)*

Graduate D explains how, online, the tutor shows or suggests design behaviour rather than designing with the student to find a solution:

*"I think when you're drawing face to face, it's more like you figure out stuff, whereas online it's more like the lecturer [tutor] showing you something. When Tutor 1 used to draw something, and you draw, it's like your idea, it's not necessary how to figure it out like we'll sit there and work it out, it's more like this is how you think it's supposed to be and then afterwards you will work from there backwards and stuff. It's not like we have to resolve this, let's start drawing, it's more like maybe you should have done this... let's start drawing...it's more like getting to a point and moving on again." (D)*

I found that Application occurs mostly in the second half of the crits, following on the first Negotiation episode. Like Negotiation, Application involves brief tutor responses; mainly confirmation, acknowledgement of the student's presentation, hints and occasional compliments.

I used Reflection<sup>51</sup> to denote the mode for building concepts, by moving the interaction from the experiential up to the discursive level. Reflection happens at various stages; before, during and after the crit. For example, it refers to the student explaining his reflective practice that led to the submitted work: reflection-on-action (the student reflecting on his submitted design) or reflection-in-action (the student or tutor reflecting on the student's work in the crit).<sup>52</sup> Graduate D explains how the live online crit helps the student reflect after the crit:

*"while you were critting there weren't necessarily answers yet to the questions [...] and then you can actually go think about it, okay, I'll try this, and you can reflect again about it" (D)*

C2 reports on his reflective practice in preparation of the crit (reflecting on practice):

*"After I finished building the model and looked at it I thought it would have been an interesting idea to vary those heights because I am playing with the horizontal elements of the ground level itself, but I hadn't thought about that further in the sheltered areas." (C2, Crit 2, turn 39),*

And reflecting on feedback:

*"Those sheltered areas are open at the back, so you can actually stand here and look up at the mountain like that. [student's markings in red] So you look through the sheltered area at the mountain as well. So, it almost frames the view for you." (C2, Crit 2, turn 43)*

T1 models Reflection by demonstrating it on the student's work:

*"But also along the sides that you're creating [tutor's markings in yellow – drawing from the top downwards] – you know not just necessarily a single route but that it kind of splays out and invites you in or squeezes you out, depending on how you're moving through. [tutor's markings in yellow] So I think that you know that kind of edge treatment as well is also starting to make spaces that engage across rather than it just being purely an edge that wraps the building." (T1, Crit 2, turn 47)*

## Conclusion

The four modes of interaction derived from the literature (see table 1), namely *Negotiation*, *Exploration*, *Application* and *Reflection* (NEAR) were found in the focus group interview and observed in the three crit protocols.

All three crits displayed the modes of Negotiation and Application and for both, the student dominated. The tutor's role was limited to brief inputs, prompting for clarification and explanation, hinting, questioning and occasionally complimenting. Most of the on-screen drawing activities in these modes were performed by the student. These findings correspond with the recent graduates' description of the live online crit as formal and 'like a presentation.' It can therefore be expected that the live online crit supports presentation and articulation skills specifically. Negotiation was concentrated in the first half and Application in the second half of the respective crits. This supports the general pattern of the crit conversation as starting with the abstract and theoretical and ending with the concrete and practical aspects of the discourse. An exception is Crit 2 where these two modes occur, alternating, throughout the crit.



The tutor's role features more prominently in the Exploration and Reflection modes, relying on on-screen drawing for modelling. Exploration is associated with the testing of ideas and Reflection with the building of concepts. Exploration and Reflection often occur together, alternating in phases. In Crit 1 this occurs in episodes h and j; in Crit 3 in episodes e and f, and in Crit 2 these alternating modes occur more frequently, in episodes c, e, f, g, i, j. These modes (Exploration and Reflection) are often accompanied by active on-screen pointing and marking, by both the student and the tutor, except that, of the three students, only C2 performs Reflection in the crit. In the light of Lauillard's<sup>53</sup> suggestion that students need to constantly move from the concrete to the abstract and back again, it might be concluded that these episodes provide the key learning interactions.

Based on who initiates the change in conversational level (from discursive to experiential and vice versa), in other words who initiates Exploration and Reflection, it appears that the tutors lead Crit 1 and the student lead Crit 2. Crit 3 shows a more equal distribution of the initiation of 'up' and 'down' interactions. Various reasons may be ascribed to the difference in crit pattern of Crit 2 compared to Crits 1 and 3 and exploring this question requires further research. However, since the dominance of the use of physical models by C2 is the only obvious difference, this might be a reason. Not only did the prominence of physical models help the student continuously reflect on his own practice, but it seems to have helped navigate the conversation more equally between the concrete and the abstract; the practical and theoretical.

Analysing crit protocols according to NEAR modes of interaction, *Negotiation*, *Exploration*, *Application* and *Reflection* revealed valuable patterns and themes to broaden our understanding of the student-tutor interaction in the live online crit. However, the findings of this study are not generalisable. The sample is too small and the context too specific and further research is therefore needed, to uncover different crit patterns and behaviours. Such research may include studying crits of varying duration, at different project stages, based on projects ranging in complexity, focusing on tutors with different tutoring strategies and students at different levels of design expertise. I hope that the method of visualisation developed in this study and the

initial conclusions, will be developed through future research to further explore the complex practice of the architectural design crit in all its forms, and to address the challenges presented.

### Acknowledgements

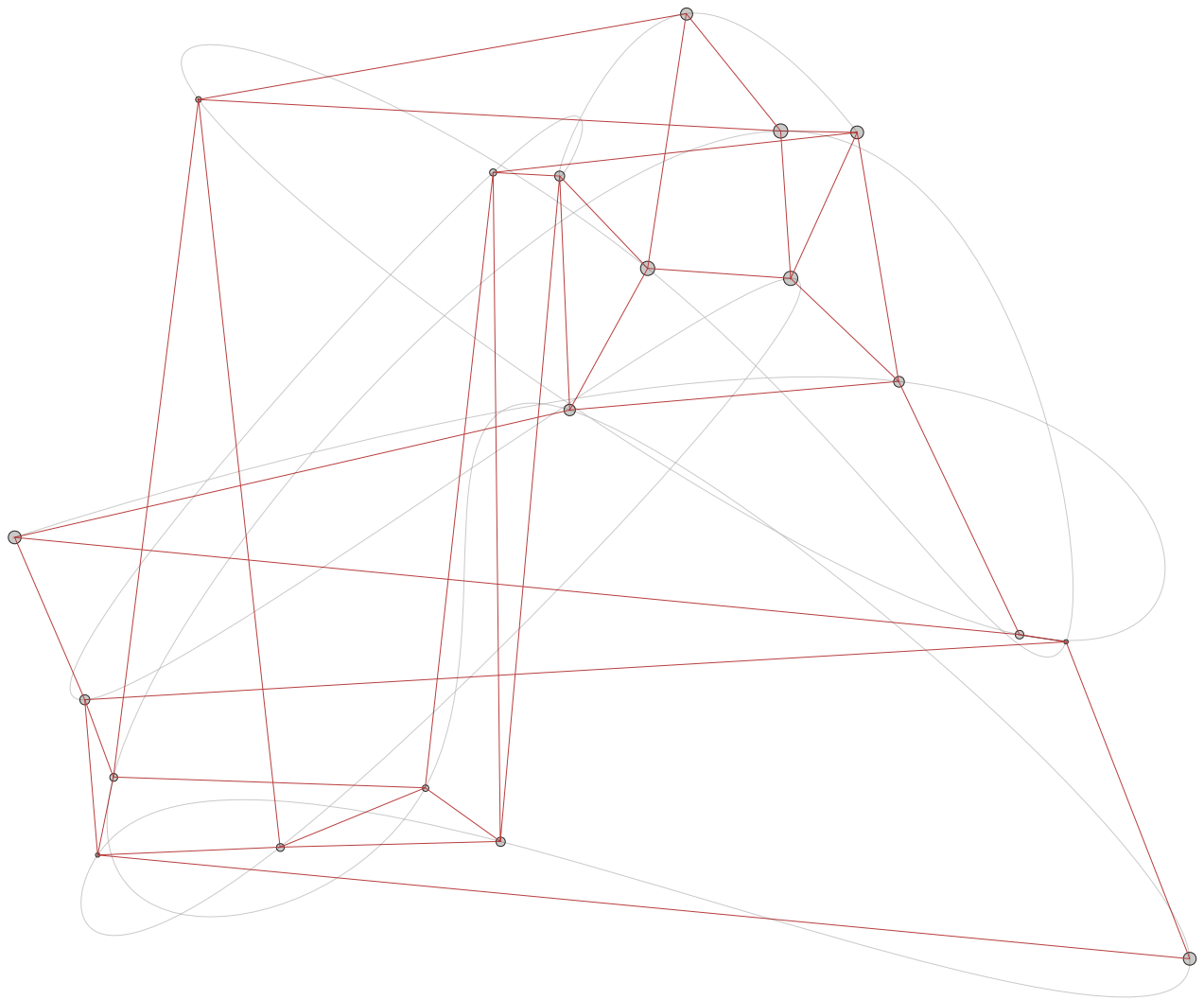
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## 2.7 ACTIVISM



# With Sacramento. A values-based design process.

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## ABSTRACT

This paper will outline the complex and varied design processes and participatory methods for community and stakeholder engagement with an eye toward both the functions of the academy and the expectations of the community. The intent is that participatory (low tech and high tech) planning and design tools can be used not only as deployed in Sacramento, California, but also in communities around the United States. In other words how do you approach communities with a process rather than a project in demonstrating the value of design in disinvested places?

**KEYWORDS** design process, public interest design, participatory methods, disinvestment, sustainability

The fixation of architectural praxis with the celebration (or commodification) of aesthetic genius in the twentieth and twenty-first centuries has been supported by an emphasis on the architect as reified author of the artistic object, rather than as facilitator of cultural practices.<sup>1</sup> Whether under the (European/North American) rubric of modernism or postmodernism, in the former, the public as people are rendered generic and universal in their cultural praxis; in the latter, the public as people are defined as consumers of culture in the commodification of the container (architecture). In fact the conventional and ubiquitous global architectural notion of architecture as practice concerned primarily with an aesthetic agenda is increasingly being challenged by heretofore fringe activities that have started to become

mainstream under the monikers of public interest design, democratic design, and/or tactical urbanism.<sup>2</sup>

Public interest design, democratic design, and/or tactical urbanism share philosophical foundations that emphasise that the design of our built environment is often socially and politically charged and, thus, design should be a tool for furthering social justice issues.<sup>3</sup> These modes of creative action provide a means of addressing intractable human concerns (a.k.a. wicked problems).<sup>4</sup> All three engage in socially-oriented, civic practices that emphasise, and often restore, the role of the public in place making in an increasingly privatised society. All three also emphasise various levels of participatory action in the making of things and places, with a particular focus on extending architectural processes to those people and places left out, or behind,

in design-development decisions. These movements are now world-wide as they intertwine the cultural and physical and have created knowledge communities/networks that are informing both local practice and helping to contextualise the problems within the driving dynamics of the disparities of a globalising South.<sup>5</sup> Certainly in the case of public interest or democratic design—a movement catalysed during the civil rights and community activism of the 1960s in the United States—current research demonstrates that more than 80% of students and young professionals demand more opportunities to engage and learn skills in public interest design.<sup>6</sup> What these various practices suggest is the need for codifying and propagating value-based design processes.

The implications of a value-based process of design include: allowing plural conceptions of place; designing capaciously from the points of view of experts and lay people so that values, priorities, and management are not determined a priori; having social justice drive economic gains for institutions rather than the later delimiting the former; valuing process over product; not alienating the local when favouring a regional, national or global reach; and, linking to local priorities and problems of community concern. Public interest design, thus, is characterised by: the exploration of past, present and future conditions; identifying both known and ambiguous terrain to discover hidden and marginalised parameters or constraints; redefinition of the initial problem *with* the community; using divergent thinking to offer variant ideas; using convergent thinking to prefer, resolve and realise solutions based on the divergent iterations; and seeing all design activity as social activity. In other words, public interest design is a process, not product, driven model. These are the foundations for its creative action.

The other critical aspect of public interest design, democratic design, and tactical urbanism bring to the table is an interrogation of: how spaces construct a particular world view for ourselves; how the discipline of architecture has passed on that world view; and, how the profession has embedded that worldview within the built environment, and helped thus to promote and determine patterns of consumption, exclusion, and environmental impact. Thus, when The Smithsonian's Cooper-Hewitt, National Design Museum in New York City, followed up the *Design for the Other 90%* exhibit

and publication with *Design with the Other 90%: Cities*, the shift from designing *for* underserved communities to designing *with* underscores a change in the emphasis of approach of public interest designers toward a more inclusive process. A process that recognises differing beliefs underlying decision-making and values all participates as experts.<sup>7</sup>

### The Center for Public Interest Design

The Center for Public Interest Design (CPID) at Portland State University grew out of Sergio Palleroni's career-long effort to address the challenges of sustainability and health in disadvantaged communities, as well as the work of B.D. Wortham-Galvin in disinvested neighbourhoods in the mid-Atlantic region of the U.S. While officially established in 2013 with three additional founding faculty fellows (Travis Bell, Todd Ferry, and Margarette Leite), it took Professors Palleroni and Wortham-Galvin two years to get the agreement of other units at the university and navigate official approval for a Center emphasising the benefits of social engagement as central—not ancillary—to the mission of a professional program such as architecture. As the first university centre in the United States focused on public interest design, the CPID has become a vibrant place to conduct interdisciplinary research, explore ideas, and train an emerging generation of designers and thinkers in public interest design practices. The CPID's establishment and methods offer an insight into the trajectory of the emerging field of public interest design, strategies for organisations with a shared focus, and challenges that the centre and the profession will need to overcome.

The major systemic change the CPID asserts, relative to architectural praxis, is an emphasis on community needs rather than client desire. Over the past century, the latter has proven, in the United States and elsewhere, to limit design's social impact and serve a more narrowly defined notion of the public (more often, then, the public becomes circumscribed as consumers and tourists rather than residents and neighbours). Public interest design leaders assert that a shift to community driven design parameters is essential to the wellbeing of the society as a whole, as it brings professionals into the collaborations that are necessary to address effectively problems such as public health, affordable housing, equity in economic



development, and social and environmental justice.

Socially-focused design-build projects like those run through the BASIC Initiative, Design Corps, and Architecture for Humanity have largely been the primary entry point into public interest design for students in the U.S. before the advent of centres like the CPID were able to provide a broader range of opportunities to engage in the subject field. Operating for decades outside the academy, these organisations served as essentially non-profit service organisations to overcome the objections to engagement that characterised the intellectual environment of most architecture schools and firms in the decades after the 1960s. Suspicion of the merits of the emergence of community-based design meant that by the mid-nineties less than half a dozen programs continued to be active in the academy nationally. Looked through today's perspective, it's somewhat inconceivable that there would be an objection to giving students and professionals the opportunity to design with (and learn from) the complexities of real people in real conditions that are difficult, if not impossible, to replicate or reduce to a fictional assignment in a classroom or a weekend pro bono effort that is forgotten when Monday comes.

The CPID operates under the notion that architecture is about people (contrary to the educational and professional assertion that architecture is about buildings). Thus a strong emphasis is on service-learning experiences, and fieldwork, for both students and young professionals that demand that designers develop and use a range of skills that include and often surpass those required of the profession of architecture, with an impact on a site and community that is immediately perceptible. In addition to elucidating the profound relationship between the lines on a drawing and the real world implications for the building of a structure, students and young professionals are also able understand first-hand how a project is the result of complex relations and conditions on site expanding both the opportunities for engaging the client (community) and nurturing long term relations.

An obvious challenge for work in a community is that the relationships and trust built during the project can end abruptly with the conclusion of the academic term if an approach toward sustaining ongoing engagement is not planned in advance. While

the Center is based in a University, projects cross the academic calendar as a variety of actors move in and out of a project as the process necessitates. The fragility of this is not to be underscored as continuity of trust and alliances forged with the community are critical to the long-term success of the public interest design model. As Dan Pitera of the Detroit Collaborative Design Center pointed out at the 2015 Structures for Inclusion Conference, there is an important distinction between community participation and community engagement and much of what is being called engagement is really momentary participation in an activity. Community engagement speaks to a deeper relationship forged over time.

Three of the most significant ways the CPID has sought to address this challenge is through the development of Faculty and Student Fellows Programs, the Graduate Certificate in Public Interest Design, and offering credits through the Intern Development Program (IDP). Faculty and student fellows work on projects independent of the academic calendar in a workshop setting supporting critical moments in the life of an endeavour with various configurations that expand and reduce as each project demands. Undertakings that faculty and student fellows have worked on include: the design of a sustainable community centre in Inner Mongolia, a design intervention to promote safe transit usage in some of Sacramento, California's most disinvested neighbourhoods, and the development of an adaptable school made of affordable modular classrooms that are healthful for both the student and the environment, a tactical and strategic design for a cultural resource centre for Portland's black residents, infrastructures for the Montesinos Orphanage in Haiti, and design-build disaster relief mitigation projects for a Northern Cheyenne tribe in Montana.

The Graduate Certificate in Public Interest Design is the first of its kind in the Western Hemisphere, with several more anticipated at other universities in the next few years. The creation of the certificate has marked a significant moment in public interest design education. It was created as a means to prepare future leaders in architecture, urban planning, sustainability, community development, and other fields to aid currently underserved populations through sustainable, human-centred design methods. The curriculum for the certificate was informed by an in

depth study of the field, and is offered to both graduate students and professionals in Portland and beyond with a focus on social, environmental, economic and cultural sustainability.

### **With Sacramento**

In demonstrating the belief of a value-centred design process focused on relationships and trust, in spring of 2014, the CPID formed a multiyear partnership with community organisations and the city and county of Sacramento, California. Initiated by the Sacramento Area Council of Governments (SACOG), this collaborative brought together CPID students, local governments, and the Sacramento-based organisations La Familia Counseling Center and Mutual Assistance Network (MAN) to strategically address issues of disinvestment in Sacramento in two neighbourhoods with high concentrations of Hispanic, African-American and South-east Asian residents. Driven by social, economic, and environmental challenges and their public health impacts, the With Sacramento project asserts an inclusive process for assessing immediate and long-term community needs, both incrementally and over time. The project leverages anticipated cap-and-trade carbon tax credits for California public-transit improvements in the South Sacramento and Del Paso Heights neighbourhoods in order to finance some of this critical public interest design work. With Sacramento is both an urban intervention project and a participatory action tool; it leverages design process as an entry point for capacity-building through shared decision-making and inclusive coproduction of design. The coproduction “actors” for this project have included—the CPID graduate architecture students, undergraduate seniors, summer interns, and student fellows, La Familia, MAN, neighbourhood residents, SACOG, city council members, and other local social service non-profits—under the facilitator of CPID faculty leaders Ferry, Palleroni, and Wortham-Galvin.

SACOG worked with the CPID to identify South Sacramento and Del Paso Heights as ideal partner neighbourhoods, because each had strong organisational alliances through La Familia and The Mutual Assistance Network (MAN). These organisations held the relationships and trust within the community based on being social service providers. The CPID sought to partner strategically with La

Familia and MAN in order to leverage that existing social capital and local knowledge. The design issues identified by the With Sacramento project were based on the partner’s and their network’s knowledges; not based on a predetermined design project or solution brought a priori to these neighbourhoods. The state of California has identified the regions these communities are located near or within as “disadvantaged” and eligible for access to the Greenhouse Gas Reduction Fund.<sup>8</sup> Characterised by urban infrastructure disinvestment, these communities vocalised needs and opportunities around community well-being and quality of life. Through faculty and student-generated community engagement and outreach, vacant properties, safety, and access to goods and services emerged as critical issues within the La Familia and MAN networks. Public-transportation accessibility was also identified as a significant factor of community interest and became a focal point for the CPID’s research—one that also could potentially be supported financially by California’s cap-and-trade legislation.

The CPID attempts to establish transparency with partner communities in general, but particularly around issues of expectations and benefits. In other words, the With Sacramento project employs a strategy that aims to achieve benefits and outcomes not only for the community partners but also for the students involved. The CPID asserts that the profession of architecture will only change to support a belief that architecture is about people if it becomes a significant part of architectural education. Thus, the With Sacramento project proposes multiple opportunities for focused pedagogy. As a multifaceted, embedded community-based project, it offers students a unique applied context for honing outreach and research skills, working on site with stakeholders through a variety of engagement techniques. The project also realises the value of design process as a gateway to building relationships, community networks, and communication platforms. These nontechnical skills are not only necessary but vital when designing with public constituents.

Because the CPID establishes longer-term project partnerships, students experience projects at various stages of research and development, replicating the qualities of real-life work and enhancing students’ understanding of workflows, project roles, and life cycles. The CPID also underscores team building

between individuals and student cohorts; by emphasising responsibility to project goals, the CPID constructs a legacy of knowledge among participating students beyond the conclusion of the academic term. Project faculty have facilitated additional goals: practicing methods of coproduction and design; using human values to motivate design thinking; and researching, building, and deploying a range of low- and high-tech tools to deepen community engagement.

### **Select With Sacramento (Teaching) Strategies:**

#### *Amplify community voice:*

The CPID explored varied engagement techniques supporting the open inclusion of diverse stakeholder groups. The CPID relied on community-organisation networking and the inherent social capital generated with residents at engagements in Sacramento. Faculty, students, and interns canvassed neighbourhoods and used mapping and diagramming to document their findings. They conducted observations and interviews, participated in public forums, created interactive games, and used descriptive writing, drawing, and asset-based design to verify the voice of the community. Students also helped refine the With Sacramento online engagement tool, which provides enhanced access beyond direct contact with project partners.

#### *Systemic integration:*

The CPID emphasises the concept of integration within the curriculum and in its projects. This concept is manifested in project problems and possible solutions where students evaluate social, economic, and environmental factors and the impact of these on the stakeholders. Students are encouraged to look holistically at the design intervention and consider systems, processes, and programs that expand solutions through design and development.

#### *Scale appropriateness:*

Partners and students are guided through a planning process that frames small-scale design interventions as a way to build capacity and effectiveness with communities facing large-scale concerns. The incremental development of a project teaches students about the possibilities of modularity and the progressive organic growth of ideas toward long-term goals. Controlling project scale (or tackling

smaller aspects of a project) helps students work through problem solving and application scenarios iteratively, which serves both long-term planning goals and specific small-scale interventions.

### **With Sacramento Project Results and Learning Outcomes:**

Since 2014, With Sacramento has generated the following outputs:

- Visualised research materials representing both neighbourhoods as a guide for strategies to be deployed in any Sacramento neighbourhood;
- A series of low-tech participatory events and a user guide for others to stage their own tactical events;
- Visioning documents for projects on vacant and abandoned sites as well as transit recommendations;
- A master plan for a sports facility in Del Paso Heights;
- Adaptive reuse of an unused school for community activities;
- A design guide (and prototype design proposals based on the guide) that empowers the local community and designers to participate in community-centric public-transit infrastructure.

The design guide promotes multifunction bus shelters: bus stops that are also community centres. Four bus-shelter concepts have been presented, each functioning as an in situ community centre and gateway to the neighbourhood. Currently the CPID and SACOG are seeking funding to design-build a prototype community-centric bus shelter through the Air District grants program. In addition, the CPID will hold workshops in late Fall 2017 for other non-profits and community organisations on how to use the community-centric transit guide and apply for their own grants and/or conduct their own transit design processes.

The CPID created tools to include stakeholders in all aspects of decision-making and consider what methods could be used for participation that can be captured in person, online, and/or through a lasting physical presence. Since it is not always possible to meet in person, With Sacramento is an attempt to amplify the community's voice through an online presence. This will be led by local youth working with community partners. There is excitement from this younger generation of participants who look forward

to using the tool and being community liaisons who teach others how to use the website, as well as from our partners who will have accumulating, geo-referenced documentation to better advocate for these communities. The website itself is intended to broaden opportunities for participation and inform future design, research, and action.

With Sacramento also collaborated with Madrid based architecture firm Ecosistema Urbano, using its Local(in) platform to customise an online engagement tool specific to this project.<sup>9</sup> This version of the community engagement tool is currently in testing prior to full release. Once launched, the tool will further support the inclusion of the widest breadth of community voice.

Faculty and students have participated in all phases of the project to date. Learning outcomes in the form of design proposals indicate a wide and deep understanding of community civic engagement techniques coupled with the requirement for coalition building through local, organisational, and political outlets relevant to this project. Design solutions respond to a varied set of circumstances and requirements, from large scale to small. Finally, the importance of a well-articulated design process that responds to the community context is evident; students engaged with and promoted the inclusion of their partners in this work where commonly held values were tangible. The intent is that participatory (low tech and high tech) planning and design tools can be used not only in greater Sacramento, but also in communities around the country. This paper will outline the complex and varied design processes and participatory methods for community and stakeholder engagement with an eye toward both the functions of the academy and the expectations of the community. In other words how do you approach communities with a process rather than a project in demonstrating the value of design in disinvested places?

### Continued Challenges

Before becoming licensed as an architect in the United States, graduates of an accredited architectural program need to pass their Architectural Record Exams and complete several thousand hours of work in architecture under the supervision of an approved organisation (the latter is known as the Intern Development Program as administered by the National

Council of Architectural Registration Boards). The CPID's ability to help young designers complete these hours toward their professional licensure through participation in real world, public interest design projects has been instrumental in its ability to recruit and maintain students and interns and effect critical changes in architectural praxis both within and outside the academy. The With Sacramento project is just one of many where students are receiving professional practice opportunities outside of traditional internships in conventional firms.

What has largely remained side projects for architects in traditional firms - or has been restricted to the work of university programs that can rely on a symbiotic relationship between salaries from a university and an eager student workforce - is no longer sufficient for the sea of young architects insistent on not only making great design, but also making a difference in the world and often through these practices having the opportunity to create roots in a community. What is evident to any academic teaching today is both the sense of urgency in this generation and their demand for reality based education that will give them the tools to engage in the problems of the world. Part of this new 'realism' growing up in a dramatic time in history that has made clear the need to address some of the most pressing issues of facing society, such as climate change and economic inequality. In any case, this new generation of designers has a challenging path in front of them

Recent reports by the professional architecture organisation in North America, the American Institute of Architects (AIA), have shown that public interest practices are the fastest growing segment of the field, and the only ones which have shown an expanding market penetration as compared to population-adjusted demand since 2000.<sup>10</sup> In fact, according to this report and the in depth study of the field funded by the Latrobe Prize, *Wisdom From the Field: Public Interest Design in Practice*, public interest practices have shown an incredible resilience even in conditions such as those of the Great Recession of 2008-12, when such firms only lost an average of twenty percent of their personnel compared to a much higher percentage in traditional firms.<sup>11</sup> But it is not only market viability that reflects the general interest in this field: in surveys conducted by the AIA as part of the aforementioned studies, 70% of a statistically

significant number of firms nationally ranked interest in public interest design as a top priority, ahead of even the urgency posed by sustainability. Some of the largest architecture firms in the country have also acknowledged that to recruit and retain the best students, the firm has had to develop and incorporate a robust public interest agenda. The goal of the CPID is to prepare the students and young professionals that come through our programme to become leaders at these firms, while providing the framework and skills to forge new paths within the profession.

As the CPID attempts to realise its theoretical objectives through constructing physical structures and socio-cultural dialogues, the follow questions remain critical to the mainstreaming of public interest design:

- How can architecture as cultural practice challenge architectural products to generate a design process about people, not about things?
- How do we honour inequalities in the design of the built environment?
- How can we increase deep participation that honours the values of people and place, in order to avoid engaging in architectural colonialism?
- How do we make social aims an inseparable part of the economics of architecture, emphasising co-production, making transparent gaps in architectural productions, and making evident who is framing a process or product through clear demarcation of the partisan nature of authorship?
- How can public interest design facilitate architecture as something other than a bastion of patrimony, a way of inculcating nationalism or colonialism, or a commercially consumed object?
- How can the dialogue and exchanges we engage in with our client communities both structure our expectations and outcomes, establishing the means for evaluating outcomes and self-reflection?

The issue of agency is the heart of twenty-first century architectural praxis. Who should decide what to make, as well as how, where and for whom it is made? Can public interest design become the institution where today's wicked problems (poverty, displacement, access to water and infrastructure, empowering women and girls, etc.) enter into public discourse by using architecture as a means to generate new discussions with people at the margins as principal discussants?

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# Urban Studies Centres 1968-1988. Mediating Architecture and the Built Environment through Education.

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## ABSTRACT

This text presents the experience of thirty-seven Urban Studies Centres implemented by architects, planners and teachers in Britain during the 1970s and 1980s to improve the engagement of citizens with their built environment. It examines how these centres and other initiatives that formed part of the 'urban studies movement' intended to expand people's spatial perception and guide them into a critical inquiry of their surroundings encouraging 'active citizenship' (Kean, 1989). A product of an interdisciplinary approach, the urban studies movement aimed to include learning about the urban environment in schools and communities in order to achieve a more holistic human development connected to place and a better integration with civic life. The paper explores the potential role of architects as educational mediators, forming part of educational projects to increase the interest of people in the built environment. It will study the advantages and weaknesses of these past initiatives in order to extract lessons for today.

**KEYWORDS** civic engagement, urban pedagogy, civic agency, built environment education, situated learning;

## Preface: Civic Engagement in Architecture in Chile, a broken history

The roots of this research can be traced back to my experience as a firm partner developing projects for the Chilean government through public competitions. As the project leader of a school building, it was problematic to experience the tokenistic participation processes coordinated by the local government and the lack of a clear educational vision in the design brief from the Ministry of Education. Moreover, I was surprised by how the community involved struggled to express their preferences for design and surrendered to 'experts' and authorities.

This experience in practice prompted me to research

about civic engagement and education in architecture and urban change. My aim was to explore strategies that could be used to involve people meaningfully in the construction of their surroundings. However, information in Chile about this subject in 2013 was scarce. A potential explanation is that the history of civic engagement in architecture in Chile is a broken one. The projects that started at the beginning of the 1970s to prepare people for participation in housing and urban schemes were interrupted by a military coup in 1973.

One example was the Viexpo Housing Encounter and Exhibition organized by the Chilean government which selected 'Community Participation' as one of four themes to develop a year before the coup:

*"The public will be informed about the construction processes, the development of the industry, new products and their possibilities, as well as their qualitative requirements in a way that is objective, pedagogic and attractive. [...] The process of education for and about housing has to start from primary education, aimed to enrich domestic life. The direction of this process doesn't need to exalt consumption [...] but the values that arise from cooperative living and community self-management."<sup>1</sup>*



Figure 1. Front cover Auca magazine, Chile 1972. The illustration represents housing, developers and community participation.

However, if public engagement was incipient before the dictatorship, it became inexistent for decades while the cities of Chile were controlled by military curfew. The country experienced a 'cultural blackout'<sup>2</sup> for 17 years; political apathy, the corrosion of collective values and the weakening of community ties were some of the effects that are still permeating society today.<sup>3</sup> The lack of information to enhance civic engagement in architecture in this context encouraged this research to look for lessons elsewhere where history was not interrupted.

### Civic engagement in Architecture in Britain

Britain was chosen as the focus of this study since it was especially prolific in civic engagement initiatives during the decade of the 1970s and 1980s when in Chile civil society activities were heavily restricted.

This paper will concentrate on the history of 'Urban Studies Centres', a project that brought together architects, planners and teachers during more than 20 years to enhance the engagement of citizens in architecture and urban change. With almost 40 centres spread around towns and cities in the United Kingdom, it seems rather surprising that this experience has remained untold by architectural and educational histories. However, even though the study of the urban studies centres has been considered a minor project by historical narratives it has gained significance today when other projects are trying to resume their methods of engagement.

This study intertwines the analysis of archival material and secondary sources with the voices of nine key members of the 'urban studies movement' collected through in depth interviews, in order to reflect on the successes and shortcomings of the Urban Studies Centres.<sup>4</sup> The aim of this text is to illuminate contemporary practice through historical reflection, bringing lessons from the past for Britain and Chile.

### Setting the scene: The UK in the 1960s and 1970s

After years of shortages and difficulties due to the war, the 1960s was a decade characterised by economic prosperity and affluence in Britain thanks to post-war recovery and full employment. Cities like Liverpool and London were experiencing a cultural boom of youth and creativity. Services flourished, legislation was liberalised and culture was democratised thanks to educational reforms and new media.<sup>5</sup> However, the changes of Britain's global position in the economic market and the decline of the empire were two problems that were simmering underneath the surface and that would unleash a crisis in the following decade.

As Roy Porter explains, Britain became a loser in the global dynamics when its industries were not able to compete with the USA and the strengthened post-war economies of Germany, France and Italy. Without having an empire to rely on combined with an increase in imports from Asia, the currency crisis and a delay in joining the European market, Britain was lagging behind.<sup>6</sup> This scenario combined with the global oil

crisis and union strikes at the beginning of the 1970s pushed the country into recession and made the 1970s the ‘most tortuous peacetime years in the modern era’.<sup>7</sup>

*“Of course at that time in Britain, just before that, the late sixties we had real scandals, this post-war Britain was a tired old place. [...] All this crisis, homelessness, buildings looking frail, the modernist if you like development in the sixties increasingly being regarded in many ways as a mistake, and that if you like was the fertile ground in which I landed in 1975.”* Chris Webb, 2016<sup>8</sup>

The cities were struck by the recession the hardest. Unemployment and inflation quickly rose while growth remained slow. Furthermore, wartime destruction put heavy restraint in urban areas generating housing shortage for decades. A third of the housing provision of the country, around four million houses, were damaged by bombing.<sup>9</sup> Planning doctrines became problematic when ‘slum clearance’ and the destruction of established communities were replaced by high-rise public housing and motorways.

### Redevelopment and public opinion

While officials felt positive about their housing programmes, discontent was rising amongst residents who had to deal with waiting lists, displacement, and the perils of high-rise blocks. Since the mid-1950s, the preferred solution for mass housing reconstruction were tower blocks, achieving its peak in 1966.<sup>10</sup> According to Wasson, ‘inhabitants hated them’<sup>11</sup> and the new towers became unloved and uncared for, incubating crime and other social ills.

The gas explosion and collapse of Ronan Point tower in 1968, was the tipping point of the ongoing tensions and a visual expression of the residents’ dissatisfaction. Soon after, local authorities slowed down their housing programmes and by the 1970s, “the era of town-hall big spending was over”.<sup>12</sup>

For Alison Ravetz, the fast pace of demolition and replacement of healthy urban fabric during the 1960s prompted people’s discontent and protest. Planning proposals were increasingly confronted by public rejection making the residents opinion almost unavoidable. The repetition of these situations gained the government’s attention and gave way to discussions about participation and the effect of planning over the environment.

### Government, the environment and people: Skeffington Report

The increasing protests against redevelopment made clear that citizens were engaged with their local built environment but the government did not know how to transfer this interest into the planning or design process. In 1965, the Ministry of Housing and Local Government set up a Planning Advisory Group to tackle urban unrest in relation to new projects that reported that the root of the problem was “inadequate participation by the individual citizen.”<sup>13</sup>

As a result, in 1968 Arthur Skeffington was asked to lead a commission to tackle the best way of securing public participation. Local civic societies and the Civic Trust gave evidence for the study and a year later, the Skeffington Report was delivered to offer local authorities methods to inform and include people’s views in their projects.<sup>14</sup>

Following the report, community consultation became a required step in the planning process. As Dennis Hardy explains, planning committees were not able to dismiss openly people’s opposition to development plans anymore. However, Joan Kean argues that tokenism and failed participation exercises led many to think that participation was not enough and that education was a necessary pre-requisite.<sup>15</sup> Community forums and education about architecture and town planning were then championed as a way of making children and communities conscious of their civic duties and to prepare them for participation.<sup>16</sup>

*“Ever since the Skeffington Report and the Russell Report, there has been a general tendency to feel that ‘education about planning’ is a good thing. All kinds of groups have launched themselves into the business of teaching about their areas of concern, not least RIBA and RTPI. The problem is that they appear to take the whole process of teaching and learning as straight forward...”* Chris Webb, 1981<sup>17</sup>

The effect of the report’s encouragement of educational proposals for civic engagement was twofold; firstly, several local authority planning departments hired professionals to mediate planning proposals to teachers and children, and secondly, it made an argument for organisations related to the built environment to develop their own educational proposals.

## Town and Country Planning Association

The most influential organisation in this respect was the Town and Country Planning Association. During the 1970s, TCPA set a planning aid and an educational unit that lead the debate with innovative initiatives.

The TCPA was at that time a London-based planning organisation that strongly influenced British Town Planning since the beginning of the twentieth century.<sup>18</sup> Founded by Ebenezer Howard in 1890s, it was originally set to lobby for the implementation of Garden Cities in Great Britain. Later in the post-war period, it became associated with a wider framework of town and regional planning.

Until the beginning of the 1960s, the strategy of the association was to address and incorporate influential people rather than connecting to the public,<sup>19</sup> but after the publication of the Skeffington Report, the TCPA “pioneered community participation and education on planning and the environment.”<sup>20</sup> This was possible to a great degree thanks to the leadership and advocacy of its educational officer Colin Ward.

## Colin Ward, leading the urban studies movement

“Colin, because he was a polymath, he was an architect, an artist, a writer, a journalist, a thinker. He was wonderful and he had an enormous sympathy both for people and the environment, and children and the environment. [...] a very clear understanding of the line between society and the economic underpinnings and ownerships and all the rest of it.” Chris Webb, 2016<sup>21</sup>

As explained by Catherin Burke and Ken Jones in their book *Education, childhood and Anarchism*, Colin Ward was concerned about the ‘relationships between human beings and the world they have made’.<sup>22</sup> For him, engagement with the built environment was important not only for its aesthetic dimension but also because it encoded power relations in a visible form.<sup>23</sup> According to Ken Worpole, Ward’s thinking was concerned with aesthetics, politics, design and democracy, in a similar path as William Morris and the Bauhaus.<sup>24</sup>

After leaving formal education at the age of 15, Ward’s first job was at a Borough Engineer’s Department of East London followed by 15 years working in architectural practices. Until 1971 when, in the words of his wife Harriet Ward ‘the perfect job for his expertise came along: to devise and direct educational work for the Town and Country planning

association’<sup>25</sup>

Ward combined education and built environment know-how through practice. So as well as his deputy officer Anthony Fyson who worked in a planning department and trained as a geography teacher before working at the Education Unit. The team would be completed years later with Eileen Adams, a teacher who developed a pioneering programme in collaboration with Council architects.

According to David Hall, the director of TCPA, the functions of the association in 1973 were both as a pressure group and an educational body.<sup>26</sup> The education unit was set then with three aims lead by Colin Ward: Firstly, to publish a monthly magazine called the *Bulletin of Environmental Education (BEE)*; secondly, to create and promote urban trails across the country; and thirdly to advocate for the creation of Urban Studies Centres in towns and cities of Britain to encourage urban inquiry and exploration.

## First aim: Bulletin of Environmental Education

“The very first issue of BEE, we actually, had no idea, first of all, whether anybody read it at all, but we printed thirteen thousand copies. And we distributed to every secondary school in the country. And, this was Colin’s ploy, I was all for sending it to the geographers, because I had a geography background and he said ‘no, no, no’ said ‘let’s address it to the head of environmental studies, because we know that schools do not have somebody at that stage called the head of environmental studies’. And they didn’t. So we wanted to see who in their school staff room would take an interest” Anthony Fyson, 2016<sup>27</sup>

BEE ran for two hundred and two issues and had five editors. Firstly, Colin Ward from 1971 to 1979, then Anthony Fyson from 1979 to 1980, followed by Anne Armstrong and Graham Russell and it ended while Paul Rasmussen was the editor in 1988. The analysis of this publication in terms of contents and authors has guided further archival work and the selection of the participants for the interviews conducted for this research.

“BEE was absolutely brilliant, all the teachers who were really into environmental education would have got it. But of course, it was primarily geography teachers. So with me, it was trying to bring a whole new readership.” Eileen Adams, 2016

In the clip, Eileen Adams, explains her role in BEE bringing methods and a type of graphic presentation



that would be attractive for art teachers. Since her involvement in the magazine, more student work was published and a more practical stance was adopted.

As explained by Joan Kean, the publication connected a multidisciplinary group of people interested in environmental education and worked as the main tool for disseminating the 'urban studies' movement.<sup>28</sup> For Brian Goodey, the magazine was key to make available theory and methods for environmental education nationally and abroad.<sup>29</sup> According to Roger Hart, BEE inspired many teachers at the time including his own work, but also he criticises its bias towards the built or urban environment, claiming that there was still missing a publication or centre that balanced the natural and man-made in environmental education.<sup>30</sup>

One of the main achievements of BEE, as explained by Burke, was to depict 'the school as a potential site for extraordinary radical change in relations between pupils and teachers and schools and their localities'.<sup>31</sup> In addition, the magazine worked as a vehicle for other educational experiments that could be replicated and scaled across the country.

### Second aim: Urban Trails

*"Our kids were, first of all, doing an urban trail, which we had developed, there was a little map and there were all these little points, there were pictures and data, and statistics and they would go out and get to know my bit of West London, which was a pretty horrible piece of West London."* Chris Webb, 2016<sup>32</sup>

As explained in this clip, urban trails were directed walks in urban environments that pointed out relevant areas in a graphic way. While there were plenty of nature trails by the 1960's, BEE and the TCPA played an important role in disseminating a methodology to design urban trails in cities and towns. It was also a process in which urban inquiry was coded and then shared with others. Therefore, an effective tool for urban pedagogy.

### Third aim: Urban Study Centres

Finally, the third aim was to promote and develop the idea of the Urban Studies Centres.

Urban Studies Centres (USC) were independent organisations based on the idea that only people with environmental literacy would be able to participate meaningfully and have agency in the construction

of their surroundings. In addition, the creation of the USCs was a direct response to the concern of the government to include people in planning.<sup>33</sup> As mentioned above, after decades of top-down planning for post-war reconstruction, urban issues translated into popular discontent that needed to be addressed. Centres had the double function of integrating citizens in the building process, while at the same time made professionals aware of the relevance of hearing people's needs. According to Fyson:

*"It would provide the neutral ground through which local government information about the environment and planning could flow to both the schools and the adult population, and through which public opinion could be channelled back to the planners."*<sup>34</sup>



Figure 2. Students from Fulham Cross at the Hammersmith and Fulham Urban Studies Centre, 1986 (Lynne Dixon)

Advocated by Colin Ward and Anthony Fyson through lectures around the country and BEE, the USCs lacked a defined framework and an overarching institution, which made the centres vary in structure, scale, activities and funding.<sup>35</sup> However, they shared two aims that allowed communities and especially young people to become aware, skilled and take action over their local built environment: firstly, to provide resources for critical inquiry, and secondly, to offer a meeting space where environmental issues were discussed.<sup>36</sup> To set up a centre the TCPA encouraged the use of derelict buildings in city centres abandoned during the crisis.

In 1973, an article in BEE proposed that the centres could suit the following purposes:

- A learning base for visiting local schools, including in some cases residential accommodation.
- A teaching resource centre, where teachers interested in environmental education from different schools and subjects could gather.



- A visitor centre, following the lines of the architectural interpretation centres championed by Ewan McEwan around the same date.
- A connector between people and planning, as a space for planning consultation.
- A venue for community forums following the Skeffington report.
- An archive of urban resources.
- A catalyst for meaningful urban change.<sup>37</sup>



Figure 3. Roundabout Newsletter, 1979 produced by the Hammersmith and Fulham Urban Studies Centre (Urban Wise)

The pedagogical activities used the local urban environment as a primary resource and were based on interdisciplinary collaboration between environmental professionals and teachers. At the time, these learning strategies were labelled as urban environmental education or urban studies, but due to change of those terms in time, I am referring to them as urban pedagogy methods. Also, the word pedagogy and its Greek root, meaning ‘leading the child’,<sup>38</sup> seems more appropriate than education that is related to formal institutions and knowledge delivery.

Through the urban studies centres, Ward advocated for issue-based learning and place-based methods,

which gave an active role to the learner and considered learning as a situated practice.

## USCs in the UK

*“I would say there were no two Urban Studies Centres the same, in a way they couldn’t be, because they related very closely to the local environment. It’s also fair to say that where there were Planning Departments that wanted, well prepared local input and some were going through the motions but not that enthusiastic. They left it more to the educationists, but the best of these centres saw a real collaboration between the planning and architectural people, on the one hand, and the educationists on the other.”* Anthony Fyson, 2016<sup>39</sup>

The origins of the idea lie in the ‘field study centres’ a set of buildings scattered around rural Britain since the 1940s that allowed children to explore the outdoors and learn about the natural environment. By 1973, the number of centres and the demand for field work was continually growing; some sites were overused and there was a clear need for creating more facilities for outdoor work for students.<sup>40</sup> Ward and Fyson, argued that ‘schools are exploding into the environment’<sup>41</sup> and advocated for the creation of ‘urban studies centres’, as an urban alternative to ‘field studies centre’<sup>42</sup>. The main activity would be ‘streetwork’, or field work done in an urban setting, as the inquiry of the cities and towns where most children lived.<sup>43</sup>

## Council for Urban Studies Centres (CUSC)

To support the creation of Urban Studies Centres, the Council for Urban Studies Centres (CUSC) was established to connect academics, politicians and professionals in the creation of the centres around the country.<sup>44</sup> Its first meeting was held at the TCPA in March 1973 chaired by David Hall, the director of the association. Between their thirty-two members were MPs, professors, advisors and trustees.

*“Because we’ve been talking about it, Colin said, and then we form the Urban Studies Council which was actually simply a campaigning ploy. We had a lot of contacts, in the, in the political world, in the planning world, and, of course, in the education world, because Colin and I’ve been putting ourselves about, we use to charge around the country speaking to anybody who wants to listen...”* Anthony Fyson, 2016<sup>45</sup>

Their last report in 1980 presented thirty-one Urban Studies Centres that approached built

environment education with different strategies.<sup>46</sup> Even though the evolution of the urban studies centres was extensively covered in *BEE* until 1988, there are almost no publications after that date, apart from brief mentions in texts by Roger Hart<sup>47</sup>, people involved in *BEE*<sup>48</sup> and scholars studying the work of Colin Ward's.<sup>49</sup>

Amongst the Urban Studies Centres developed in Britain, there was one centre that stood out in terms of their impact in the local community and was used by Colin Ward as an example: The Notting Dale Urban Study Centre.

### Case study 1: Notting Dale Urban Study Centre

Notting Dale Urban Studies centre, in West London, was set up between high rises and highways thanks to John Rees the head of economics at Harrow school. He heard Colin Ward lecturing about the idea of the Urban Studies Centres and decided to persuade the public school for whom he worked to fund one centre next to the youth club the school supported in a deprived neighbourhood in London.

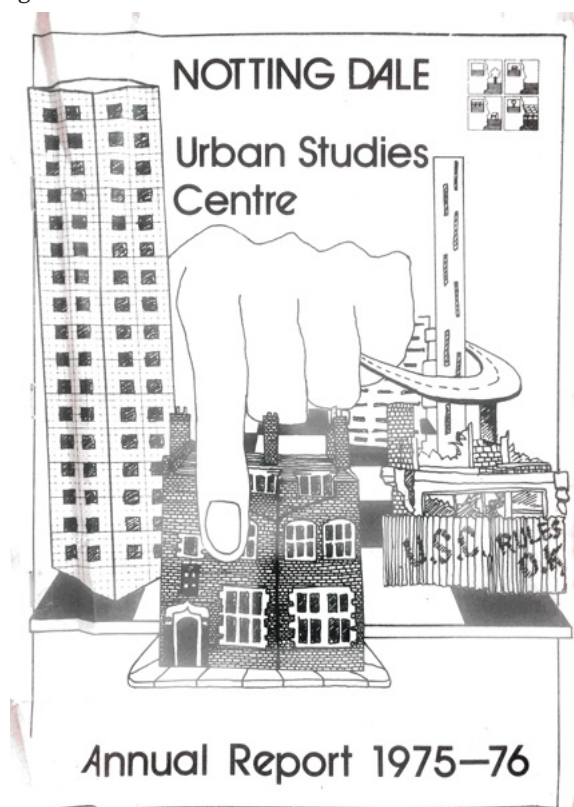


Figure 4. Front cover Notting Dale Urban Studies Centre report 1976 (Chris Webb)

Chris Webb, a historian and teacher, was chosen as the best person to lead this new project. Webb who

worked before as the educational officer of Shelter, a housing pressure group, became interested in the relation of people and their environment while teaching in a deprived area behind Kings Cross Station. During that post, he realised the importance of the setting for learning, observing where his students grew up and how it affected their education. For him, the environment had a powerful role to enable or disable children and their families from doing things in a certain way, from learning things in a certain way.

In order to engage his students, he used active learning, learning by doing and collaborative problem solving. All methods that were advocated by Colin Ward in *BEE*, whom Webb had seen speaking. He became director of the first Urban Studies Centre in December 1974. According to their first report, they spent their first 6 months equipping the centre:

*"So we had to try and build up the resources of the centre to fit that purpose, that pedagogic, social and indeed political purpose. [...] I always said very straightforwardly things like the TCPA this is political, be clear, the hard cities are results of decisions by politicians and by business people and professional groups, the soft city is the rest of it so we have to live in it [...] let's try and understand the politics [...] that every time things happen is because of legislation, politicians, local interest groups, so it is very important not to pretend that urban studies were not political, it always was, it was a very powerful of political education, as opposed to the very nice but slightly anodyne field study centres, you know which study natural environments."*

Chris Webb, 2016<sup>50</sup>

The centre included three large working rooms, two large dormitories for 16 students and accommodation for their teachers. A dark room and a wet room to process photographs. A media room with state of the art printing machines, a large communal kitchen and administration facilities.

The equipment that was available for use to anyone who visited the centre, included recorders, cameras, projectors, developing and printing equipment, typewriters and other tools not normally accessible for schools or local groups. There were three people fully employed, the director, a teacher/researcher and a secretary, but Webb described the work environment as horizontal with everyone doing everything.

The learning experience was described as "autonomous, collaborative and self-generating" with

“no right or wrong answer, but a range of beliefs and opinions.”<sup>51</sup> According to the centre’s annual report, their ethos was “a fluid and flexible learning context, within which students and adults generate much of the information and opinion on their area themselves.”<sup>52</sup>

It was set as an enabling place, where the possibilities of participation were meant to be experienced. A typical day would include an urban trail in which visitors recorded their points of interest. Then it was followed by a small group discussion about the issues present in the neighbourhood. After lunch, the students would use design thinking and architectural exercises to look for solutions for the issues identified. In Webb’s words “environmental education is extraordinarily democratic and any city-dwelling child can bring his lifetime experience to bear in what that more formal subjects often preclude.”<sup>53</sup> The city was the resource and the questions asked were what is it, how it works and why? The process would help students realise that architecture and urban fabric is malleable and not ‘God-given’.

An example of the centre’s achievement was a self-build community centre that sprung out of an urban trail and a research project done by local kids of a council estate. With the help of Webb and an architect, the community designed and build the space that was thoroughly used in the following years.

In addition, the centre worked as a community forum and groups like the tenant’s associations held meetings and exhibitions in their spaces. It was a teacher resource centre, where teachers could try new pedagogical methods. However, more importantly, the centre was an archive of material about the urban environment, available for everyone to use and explore. After their first year, booking was needed often a term in advance.

### This idea was not new: Outlook Tower

Colin Ward acknowledged in an article in BEE that a prototype of the Urban Studies Centres was previously developed by the Scottish thinker Patrick Geddes.<sup>54</sup> This was a relevant connection since it related the origins of the urban studies centres to social reform and anarchist thinking at the end of the nineteenth century.<sup>55</sup> Geddes was friends with Kropotkin, both references for Ward’s work.

Designed by Patrick Geddes in 1892 in Edinburgh, the Outlook Tower was developed to connect the

citizen with its surroundings. The building was organised as a ‘civic observatory’ where people could first see their local environment from a new point of view. The aim of the tower was to deliver a more effective and affective kind of learning, that encouraged the citizen to be active and involved in the construction of their environment. Geddes insisted in the relation between the ‘young humans’ and the environment because he believed that an understanding and sympathy of the environment would lead to awareness, value and potentially, the improvement of it.<sup>56</sup>

### Resuming the Urban Studies Centre: The Urban Room

*“They were successful at that stage and were very, very well supported like, you know, real schools at schools actually love working with them, they were very, very positive at that time, you know, I think we have a phobia in our society about death, and I think sometimes things have to die. But they’ve got reborn as Architecture Centres, which is not so good.”* Jeff Bishop, 2016<sup>57</sup>

This paper has presented part of the history of the Urban Studies Centres, as a project of architecture, education and politics that has been overlooked by architectural and educational history. Even though there are no urban studies centres left, (the last one changed its name in 2016) the same idea has resurfaced again under the name of Urban Rooms.



Figure 5. Map of Urban Studies Centres in 1980 and Urban Rooms in 2016 (author)

In 2013, the British government resumed their interest in architecture and the built environment and commissioned Sir Terry Farrell to conduct a review of the sector<sup>58</sup>. The aim of the research was to



advise the government on how to shape policy in four key areas: design quality, economic benefit, cultural heritage and education.<sup>59</sup> After a year of meetings and surveys with industry experts, the report urged for two key recommendations: Firstly, to include built environment education in the school curriculum across subjects; and secondly to advocate for the creation of an 'Urban Room' in every town and city in Britain.<sup>60</sup>

In the review, the 'urban rooms' were described as places where people could learn about the past, present and future of the places where they live.<sup>61</sup> It was this last idea that resonated the most between built environment professionals, and as a result, different groups across the country tried to set up their own 'Urban Rooms'.<sup>62</sup>

Three years after the publication of the review, these proposals are running out of strength and it hasn't had, until now, any confirmed impact in teaching practices or public awareness of the built environment. Nonetheless, architects around the country keep talking about setting up their own urban room. By the end of 2016, there were nine urban rooms established in the country, of which most of them are temporary or renamed previous projects, meanwhile, RIBA is piloting a programme to include 'Architecture Ambassadors' in schools that rely on volunteering architecture practices to conduct projects with young people.<sup>63</sup>

This situation makes relevant to reflect on the successes and failures of the urban studies centre, before committing energy and resources to resume an initiative that is maybe not appropriate for our context. The main challenge is that, as the interviewees explain, there was no 'impact assessment' to determine what worked or not. We are left with the traces of the archival material and their accounts of the period.

*"Because the built environment [education] was always much more engaged with social processes, with politics, and economics, decision making, etcetera, and address those issues. Whereas the stuff out there, it's just nice, basically, again, nothing wrong with it, it's actually fundamental, but it wasn't picking up those key issues."* Jeff Bishop, 2016<sup>64</sup>

### Final Comments, a reflection

A potential problem of the urban room is its lack of connection with current educational theory and

practice, and how they were conceived mainly from an architecture point of view, rather than the multi and interdisciplinary stance of the urban studies centre. Also, because of its lack of historical perspective. Surprisingly, there is no acknowledgement of the British tradition of urban pedagogy in these new initiatives or in the current education literature<sup>65</sup> and no explicit intention to learn lessons from the past.

This research seeks to map and acknowledge these forms of civic engagement, so we learn from the past and avoid trying to reinvent the wheel again.

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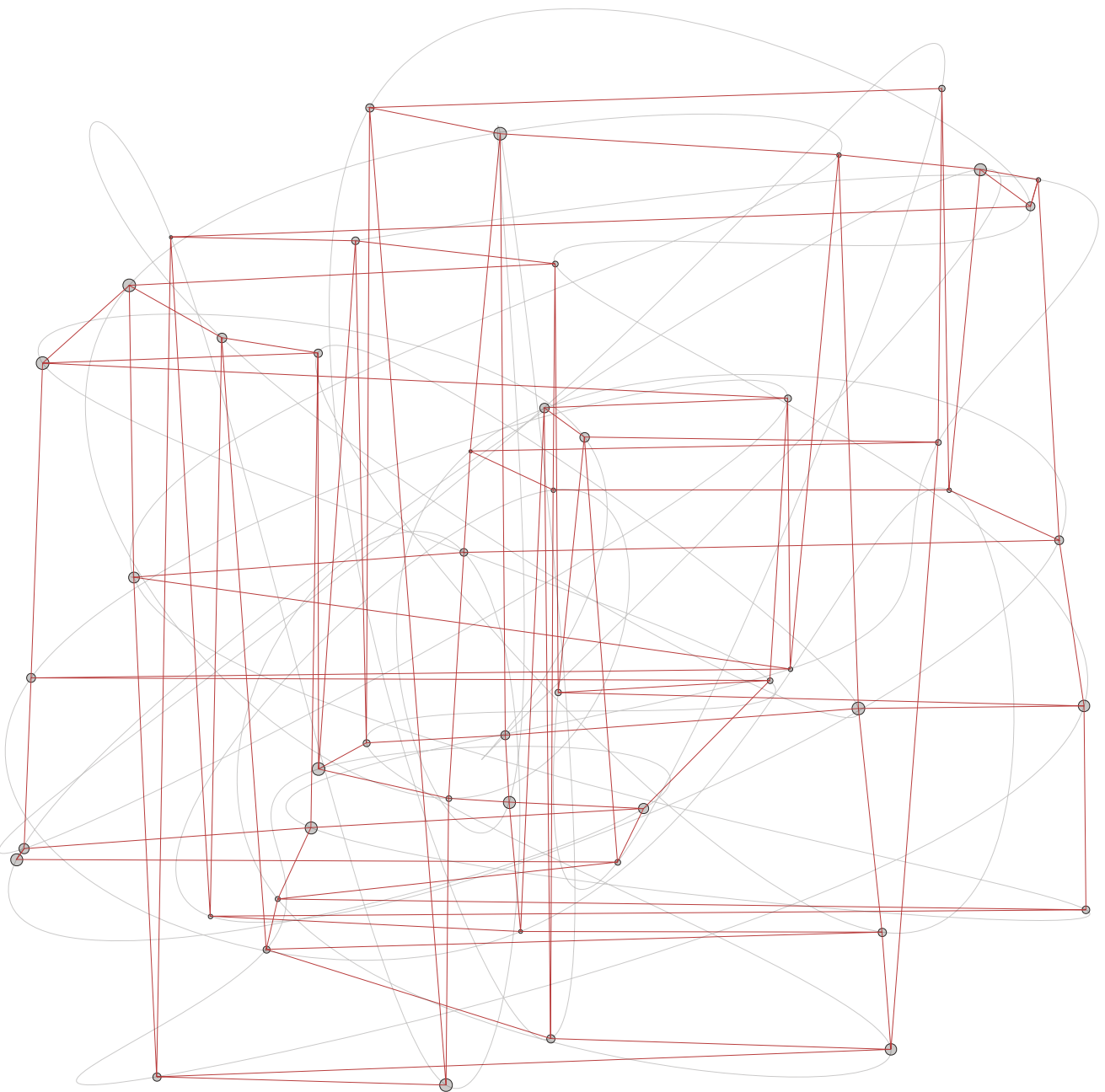
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## 2.8 IDENTITY



# Mapping Redbridge. In Search of the Spirit of Place

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## ABSTRACT

This paper reflects on Mapping Redbridge: In Search of the Spirit of Place, a project commissioned, and in part funded by the London Borough of Redbridge. The project re-imagines mapping tools and techniques to capture, distil and represent the rich and complex social phenomena existing within the London borough of Redbridge, as it undergoes change through the onset of urban regeneration. Designed hand-in-hand with the LB Redbridge Council, the Council's Voluntary Service and local community organisations, Mapping Redbridge is an inter-disciplinary collaboration between academics, students and contemporary practitioners from fields of Architecture, Health, Performance, Graphic Design, and Photography.

The project seeks to adapt and fuse together established social and cultural research practices from across disciplines, creating hybrid tools to capture and communicate audio, image and time-based content informing a reflexive urban design process. Launched with a suite of knowledge-sharing forums and guided walks led by local stakeholders, the research teams carried out cross media fieldwork to identify specific locations and points of enquiry within Redbridge. These raw insights were expanded, in part by the first sightedness of the diverse and international student base, then reapplied through the lenses of the converging disciplines. Through open critique and synthesis workshops satellite projects were developed engaging in specific themes, broadly around public health, agency in marginalised groups, town planning and spatial infrastructure. The exchange of authentic local knowledge and ideas about the future of place were provoked through informal conversations and lightly structured interviews in the field. The real impact of Mapping Redbridge is in the development of the satellite, or legacy projects and their transformative nature. That is: to affect change through the design of proposed interventions addressing locally identified challenges, revealed through the participatory research process. Each legacy project has a set of aims and clear impact; sponsors, stakeholders and collaborators are identified. The legacy projects offer a platform for local wisdom to be shared and enable an incremental and inclusive process of 'soft', long-term regeneration, in contrast to the familiar, high impact, capital investment-led urban regeneration processes. Phase one of the project will conclude with an immersive, public exhibition in Redbridge town centre presenting the mediated content, findings and legacy projects.

**KEYWORDS** interdisciplinary, participatory action research, social justice, urban mapping, assemblage

Through the case of Mapping Redbridge, a participatory urban design project in East London, the following paper draws out and examines a cross-disciplinary mapping methodology leading to a suite of proposed interventions advanced within the project.

The methodology forms part of a developing spatial planning framework drawing on assemblage-thinking, and grounded in learning-to-action and action based learning approaches. The paper begins by introducing Mapping Redbridge offering a short overview setting out some of the terms used and contextualises the mapping methodology deployed within the project. The next section elaborates on the tools, techniques and strategies utilised with the project and through two cases, examines the emerging methodology. The paper concludes with a summary and speculates on how it might be embedded in developing spatial planning framework.

### Mapping Redbridge

Deploying a suite of innovative, mapping methods from across disciplines, including architecture, arts, digital media and public health, Mapping Redbridge (MR) seeks, at one level, to shed light on some of the existing constituent characteristics of the East London borough of Redbridge as it undergoes a process of urban regeneration. However, the project aims to provide more than a mere reflection of place. By interpreting the qualitative information collected through our initial fieldwork, a set of action-based projects with implementable interventions is proposed. These *legacy projects* aim to address social challenges and themes emerging through the mapping and interpretive stages. Critically, and a founding principle of MR, is that all stages of mapping, interpretation and developing legacy projects are undertaken through a collaborative *project network* consisting of local and non-local actors. Legacy projects are designed to be prototyped in a specific location and, where appropriate, are scalable to address common societal challenges at other spatial levels.

This replicable and interdisciplinary method, built on a triad of mapping, interpretation and action, is the first of Mapping Redbridge's three objectives. Through the legacy projects and the project network, MR's second objective is to affect change by building social capital and resilience through inclusive and tactical socio-spatial interventions. In the third objective, MR

seeks to empower and offer voice to individuals and communities that often go unheard as neighbourhoods undergo rapid, and often transitionally violent urban regeneration.

### Learning, action and design

Mapping Redbridge stems from a collaboration between London Borough of Redbridge council and a university Civic Engagement programme, bringing together colleagues from a range of disciplines around the idea that research can lead to action, and that live projects offer a profound learning environment for students. Real value is placed on the role of the student as both researcher and apprentice, where lived experience combine with curiosity and fresh insight are celebrated. During this extracurricular project, students participated in designing investigative research methods to examine emergent themes in collaboration with practitioners and researchers from outside of their study area. This exposed the students to a new range of skills and ideas impacting their learning journey.

Action based learning and research to action are caught in the wider net of Participatory Action Research (PAR), an approach to research which cuts across disciplines and is commonly traced back to Kurt Lewin's 1946 paper, 'Action Research and Minority Problems' in which Lewin coined the term 'action research'. PAR has gone through many permutations since, and continues to provide a useful set of tools and methods for interdisciplinary research. A well-used maxim describing the key principle of the PAR approach is that research should be carried out 'with' people rather than 'on' or 'for' them. (Chevalier and Buckles 2013). This principle has gone on to inform the contemporary practice of 'Co-production'. Both a branch of the design discipline and a methodology used to innovate services, systems or products, emphasising a participatory relationship with the 'user' throughout the design and problematisation process. This form of collaborative design and action is being employed and embedded into organisations not traditionally associated with design practice in an attempt to innovate existing systems. The NHS' Institute for Innovation and Improvement for example, which, until disbanded in 2013, applied co-production (co-design) methods by embedding designers within the organisation in an attempt to improve health

outcomes in direct collaboration with frontline staff and patients. The grounding principle here, is that the actors who possess the most direct knowledge to identify where the most wicked problems lie, and how to take action, are those at the coalface. Other social and charitable organisations within the 3rd sector are using co-production principles to tackle wider societal challenges. The Young Foundation, for example, a leading 3rd sector social organisation currently has programmes addressing youth and education, health and wellbeing and place-based issues through a participative approach to research and social innovation. Although architecture and planning is rich with examples of participative and collaborative approaches to design and implementation of buildings and spaces, the discipline was slow to take part in the wider dialogue progressing contemporary co-production methods.

Neighbourhoods Made (NM) is an example of an urban design project deploying co-production techniques, when in 2015 this paper's co-author, Jamie Scott Baxter deployed PAR principles to support local grass roots organisations and parish councils in rural Essex co-produce village Neighbourhood Development Plans. The project addressed changes to the planning system brought through the government's 2012 overhaul to the planning policy that culminated in the National Planning Policy Framework and Localism Act. NM aimed to recalibrate an approach that overemphasised local capital by putting equal emphasis on local knowledge and outsider support. It did this by seeking funding through multiple channels and utilising a research and teaching programme where professionals, academics and architecture students contributed to co-producing a future vision through a suite of participative workshops. This two-year programme shifted its identity many times to unlock funding and culminated in the co-production of a Neighbourhood Development Plan with a radical vision. The draft plan empowered local organisations not only to dictate and locate where development may happen, but to seize the opportunity within the disarray of a regional planning system (already noted by many house builders) and utilise financial mechanisms and techniques for leverage through land uplift, commonly deployed by developers. This form of co-production enables local groups to locate and build houses required by the community (rather than determined by the market or

speculative land owners) and reap the benefits both socially and financially, directing profits into much needed community infrastructure identified through the collaboration between local actors and non-local outsiders (Baxter 2015).

### A horizontal network

Participatory Action Research aims to break down the traditional, *top down* hierarchical relationship between researcher and participant, substituting it instead for a *bottom up* approach where local concerns are identified at a local level, by local actors (participants) supported by an intermediary facilitator (researcher). It is becoming a received wisdom in some contemporary and often hands-on approaches towards urban design, that locally grown projects abound with local actors can offer an antidote towards a top-down, market-led urban regeneration, often seen as out of touch with, or ignoring local concerns. However, the idea of the local is being conflated with a populist rejection of liberal and moderate values through a contemporary wave of mistrust for authority and expertise as experienced in the EU referendum. We remember Michael Gove's declaration, "People in this country have had enough of experts."<sup>1</sup> Cynical groups have hijacked these sentiments to serve covert and political goals. The ideals of the local are further undermined in the widening distance between what has been described as an unrooted, metropolitan elite and those still attached, whether willing or not, to an idea of locality often outside of the metropolis (Goodhart 2017). In an attempt to address these currents and the notable over-reliance on localisation in past participatory research projects as pointed out by Chevalier and Buckles (2013), MR seeks to aggregate forms of local and non-local knowledge within a *horizontal* and collaborative framework. Locally embedded knowledge, which can provide rich insight into the nuance of place but often lacks perspective, is fused with the experience of actors from outside the locality bringing expert knowledge, providing a conduit to global cultures, or simply experience from elsewhere held together within a loose project network.

We can begin to imagine a scene set on a level stage, where outsider's experiences collide directly with locally ingrained wisdom. In an attempt to overcome the tendency for either a top down or bottom up knowledge to over- or undermine, the principle of



chance is added to the mix, simultaneously fusing and cleaving forms of knowledge to provoke new insight into placeness. Lurking in the mist is the idea that the city has agency of its own derived for its multiple layers of infrastructure (Amin and Thrift 2002, 2017) and non-human rhythms (Lefebvre 1996, 2004) taking place at any one time, and throughout time. The city, which has knowledge about itself, becomes another actor in this horizontal assemblage.

As pointed out by Dovey (2011) places have no fixed identity but like human identities are in continuous state of change. This notion of shifting qualities but with an underlying perceptible character must be examined all the more in light of the current tides of national and geopolitics. The spirit of a place is multivalent, heterogeneous and ever changing and therefore requires a nimble methodology to examine it, flexible enough to accommodate plurality and where a neighbourhood or city can resist the compressive forces lurking beneath its surface, and to find value independent of its utility to man in the dawn of the Anthropocene.

### Reassembling place

So to grasp the heterogeneous and divergent qualities of a place, traditional tools based on static maps or the distillation of essence are of little use (Amin, Thrift 2002). We must therefore look to more dynamic means to critically reassemble and interpret the clues a place presents about itself and its future.

It is through an immersive multimedia assemblage of constituent mappings and fragmented information alluding to socio-spatial knowledge that an *image of place* emerges. This emergent image of place is not a static singular entity, instead shifting and forever incomplete it serves to edge towards an abstraction of a location that can be used to examine a place and provoke meaningful socio-spatial intervention with legacy impact.

Exhibiting the constituent mappings are as much a tool to gain insight as to share and disseminate findings with a wider audience. The intention to display the material found through a public exhibition became an informal contract between local and outsider, incentivising an exchange of information with the hope of opinion being brought to the attention of those with clout.

### Bridging narratives: a methodology

The project began with a series of knowledge exchange colloquia where the local council and other local third-sector stakeholders were invited to present their connections to the borough and their particular incentives to partner and engage in the project. During these early forums, practitioners leading MR presented a range of methodologies and tools used in their fields and from their own work engaging with the built environment, communities and people. Together with academics and students drawn principally from health, visual arts and design disciplines the group established an area of study and wider project thematic.

A preliminary fieldwork phase utilised audio and visual media and experimental technologies to initially map experiences, spaces, routes, events and people encountered over a number of early curated walks. Initially led by Clare Qualman, whose own artistic practice uses participatory methods to explore and reveal the routines and narratives of everyday life in the city through walking. As a female artist engaging in traditionally privileged and male dominated methods of the *flâneur*, Clare's work has been described as "a kind of anti-dérive" due to her critical and often provocative approach and readings of the city. The methods utilised by Clare, and in turn deployed during early walks explicitly open the preliminary research up to chance, encouraging the city to guide the investigation by following a set of predetermined 'exercises'. What evolved into a performative and at times, surreal approach acted as a counterpoint to the structured, guided walks led by local participants. On returning the studio the convention of writing up field notes was substituted for processing images and sound editing steered by local stakeholders, who continued to contribute to the development of the project through a suite of ongoing open workshops. This process of review, critique and editing drew out particular lines of enquiry responding directly to the field investigation. Cross disciplinary sub-groups were organised to pursue the emergent themes and returned to the field to build upon their initial findings accompanied with specific media-based research tools adapted to suit the purpose. Some applications encouraged a playful use of audio-visual techniques familiar to experimental filmmaking. Led by this paper's co-author, Robert Pyecroft whose work applies media techniques and research methods to investigate places, communities and people. Many of

the cross media techniques utilised in MR are adapted from Robert's recent projects including Camden Youth Shelter. This is an initiative put forward by Camden Youth Council to tackle territorialism and gun and knife crime, where young people creatively consulted with 175 people to define the most suitable site for a shelter that incorporated forms of media playback. The short film *In Passing* uses experimental audio visual methods to explore the heightened sensitivity of a blind woman's reading of Manchester providing a resonant reading of urban experience through, odour, texture, memory and the ear. The short film *Home*, co-directed by Robert, reflects on the narrator expertise of 25 years of homelessness and the quest, beyond bricks and mortar, of being at home within oneself. The film lends its experimental use non-linear installation that MR applied to research questions, sites and moments. Moving time laps within MR brought further measure to street based phenomena in conjunction with more familiar ethnographic methods such as shadowing participants on their daily routines. The use of binaural recording equipment was deployed to record and subsequently reconstruct the experiences of participants, charting the rhythms of rough sleepers, 3rd sector professionals and front line council workers. In other examples, audio and visual rigs were construed to abstract and reframe the research-participant and actor-city relationships pointing to methodological questions regarding the observer's impact on research and the partiality of participants involved. As a counterpoint to the almost expendable digital image making available through smart phones capturing the quotidian, the use of medium format film photography added a visual language necessitating pause and scrutiny and producing an artefact which gives status to its subject; a process where the editing begins before the shutter is released. By fusing together technologies and research tools from across design, art and social sciences a hybrid methodology emerged equipping the participant-researcher with the necessary tools to extract rich narrative information from the city bridging from one story to the next encouraging chance and uncertainty to act.

A significant aspect of this methodology is the participative workshops carried out with the project network to process the rich, content-dense investigative work. The workshops borrow and challenge the format of the crit, a tool common to the

discipline of architecture. Conventionally, the crit consists of an individual or group who present project based work to a panel of 'experts'. After an explanation of the work, which is often 'pinned up' across a wall providing a necessary overview of the subject, the panel are invited to critique the work and its authors. To avoid these traditional hierarchical relationships a roundtable discussion was introduced, encouraging local and non-local actors to interpret and synthesise the findings, transforming the investigative research towards action. This action research methodology founded on the concept of assemblage is used to tackle the challenges and complexities of the contemporary city affecting social change through exacting and direct intervention. Common to co-production project the methodology broadly followed a *double diamond* workflow. This diagrammatic approach suggests a wave of expansive investigation followed by a period of focusing into a particular research question. This process occurs twice during a project (double diamond), the first identifies the problematic, whilst the second wave hones in towards a specific outcome through a broad and heterogeneous design process. In MR, defining the action based intervention is the converging of the double diamond into its first singularity prior to the second, expansive wave investigating the potential of such an urban intervention through the course of a legacy project.

### Legacy projects

The following section describes, through two cases, some of the methodologies applied to develop two legacy projects each proposing discrete socio-spatial urban intervention. The first, a project addressing obesity in young adults in Ilford town centre, explores a significant and real problem identified in the Fairness Report published by The Redbridge Fairness Commission in 2016. The commission was set up by the LBR council's cabinet in 2015 "to investigate how the council uses its recourses to tackle poverty and inequality as it approaches a major cross roads due to continued funding cuts."<sup>2</sup> The second project, aims to shine a light on some of the front line council staff and valuable resources whose wealth of knowledge is currently underused in urban matters. The project shadows individuals from LBR's refuse collection service as they carry out their daily routines cleaning the streets of Ilford Town Centre.

## 1. Fast Food Mapping

It is estimated in the London Boroughs of Redbridge's Obesity Strategy 2015/18<sup>3</sup> that over one in four people in the borough over the age of 16 are obese with a higher concentration of childhood and adult obesity in the south of the borough. The report suggests tackling obesity is a complex issue while it "occurs mostly in those from lower socioeconomic groups." Source: NCMP Results 2013/2014

### *Aims:*

The intention of this legacy project is to bring to the surface and highlight some of the factors that contribute to this complex issue, in particular the proximity of fast food on offer to young adults and children whilst at school.

### *Objectives:*

To locate, record and present through an illustrative map all the food outlets in proximity of Palmer Academy secondary school, Cameron Road, Ilford. To raise awareness of local food outlets offer students an alternative to unhealthy lunch options.

### *Methods:*

Local project partners put Palmer Academy forward as a possible test case. Setting the school as a central hub Emelia Bekoe-Amponsam, a public health student went on to chart the schools near and peripheral fast food shops. The time frame set by pupils' lunchtime allowed for the observation of the distances that children travelled within this short window to get lunch. This hungry, temporary and re-localised group (the school group further presents both hubs and linkages to its pupil's catchments, we might think of Gottman's megopolis in micro) dispersing at lunchtime and after school. Swelling the footfall of 12 identified fast food shops. The observational work, where understanding the site in time with the rhythm of the school was combined with an active health strategy. The initial perceived outcomes were to raise discussion and awareness accessibly.

From this spatial and time-based frame of reference, grounding as a public health strategy the project teamed extended the work transdisciplinarily, as Mooney states "Disciplinarity without interdisciplinarity is often blind and interdisciplinarity without disciplinarity is empty". Working towards

producing a research output to accessibly make these relations explicit, Heather created a series of designs for an awareness-raising postcard. Cartographically interpreting and embellished the research, drawing on her own local knowledge as a Redbridge-based citizen, local artist and also to much substantial expertise as a mother of Redbridge school children. An illustrative accessible map combined with fast food menu items presented as garish emblems that mirror the colour palates of the shop fronts and too the interior of these places where inauthentic, stock photo, light box lit and laminated representations of food and the offer of many thousands of meals. The work was further developed towards presenting the work in public as an installation or prop where convivially the health strategy could be efficiently and sensitively extended by raising further dialogue with stakeholders. Designed as a tablecloth as backdrop to eating the issue and talking about it.

The field was returned to again with a study conducted by Shakil Miah, Marwa Mohamed, Faiza Ahmad, BA photography students who surveyed and responded to the site. Primed with an understanding of Emelia's intention, the selected school and the distinctive public health lens the students produced a typology applying an approach that incorporated their own interpretive reading of the site, observing the school pupils' behaviour and the destination travelled to in the short distance.

The wandering, detecting, following and geopositioning to find these fast food sites was counterpointed with a methodical photographic approach framing each business from across the road, square, scrutinised in time through, field of view, light temperature, composition. A nod to Bernd and Hilla Becher's isolated, black and white industrial studies, although with a colour reading of 12 retailers, their immediate neighbourings we understand more human sympathies. Front facades, signage and immediate spatial context. The physicality of food, the rhythms of the body enmeshed on the local. Posing questions of culture, ritual, health, power, and complicity.

### *Legacy Intervention:*

The map and photographic series will be used in a public health campaign to raise awareness of obesity and promote healthier alternatives in partnerships with local businesses. Further mapping is required to record local food outlets within reach of the school

that can offer healthier lunchtime alternatives. Stakeholders will be drawn into dialogue and discussion through invitation to the exhibition.

A gifted limited print from the photographic series of each business for each business. We are reminded that Edward Burtynsky's expansive photographs of poisoned rivers and slag heaps are collected by corporations complicit in such environmental damage.

Publishing postcard and digital textile tablecloth.

#### *Next steps:*

- Further mapping is required to record fast food alternatives within reach of the school.
- Analysis of shop signage and study of readings by children
- Work with local businesses and student to offer and promote healthier lunchtime alternatives
- Develop a tool to measure the uptake by students and impact of the project

#### *Scalability:*

The modest mapping, surveying and recording methods can be easily transferred to the sites across the borough. Fieldwork could be integrated into student course work. Super-local challenges will need to be addressed at each site, including types of schools, proximity of food outlets etc. Flexibility in the approach is encouraged to adapt to specific circumstance.

A local organisation/social enterprise will need to take ownership and modest funding will be required to facilitate the programme. The programme can be scaled to schools outside the borough and beyond if successful and valued.

Project Team:

- Students
- Emelia Bekoe-Amponsam, UEL student, Public Health;
- Heather. UEL student, Illustration;
- Shakil Miah. UEL student, Photography;
- Marwa Mohamed. UEL student, Photography;
- Faiza Ahmad. UEL student, Photography.
- Supervisors
- Rob Pyecroft, Practitioner and UEL staff, Arts and Digital Industries;
- Jamie-Scott Baxter, Practitioner and UEL staff, Architecture, Computing and Engineering
- Kevin Sheridan, UEL staff, Institute for Health and

Human Development

- Local partners
- Liz Pearce, Redbridge Council Voluntary Service
- Palmer Academy secondary school

## **2. Ilford Custodians**

This project developed from a public health student, Adedayo Osinloye's interest in hygiene in urban contexts, who's first sighted impressions of Ilford led him to reconsider the roles and importance of those who look after the cleanliness and hygiene of the public realm. On the streets throughout the day and night, these public servants can offer knowledge and rich insight into the workings of the city which often go unheard or neglected. Yet these custodians of the public realm, who are as much part of their location as the streets they meticulously care for, are the invisible eyes and ears of the city, knowing its habits through its detritus.

#### *Aims:*

To reposition, celebrate and learn from front line public servants who provide critical, but easily overlooked services within the public realm, in particular to engage with the street sweepers and refuse collectors of Ilford town centre who can provide a grounded reading of the city.

#### *Objectives:*

Using a shadowing method, borrowed from ethnography, the experiences of street sweepers and refuse collectors will be mapped and recorded gaining rich first-hand insight into their activities during daily work routines. This seeks to identify patterns, synergies and interdependence leading to new opportunities and innovations.

#### *Methods:*

A team of students and practitioner/academics shadowed a range of participants from the Ilford refuse and waste management services, including a fly tipping removal unit, a street sweeper and head of services:

- Shadowing captured with film and sound;
- Narrative and semi-structured interviews prompting a commentary from participants;
- Desktop and workshop analysis of recorded material;
- 3D scanning digital and physical prototyping.

Through the PAR stages of the process Adedayo engaged in parallel threads of research that took up opportunities that surfaced as we simultaneously documented and intervened in the borough. As an international student and persistent re-visitor, Adedayo applied a certain first sightedness with a heightened sensitivity to the places investigated. Adapting media techniques to public health research extended his methodological understanding within a scholarly realm and in practice the ear of consultancy, which allowed for the posing and asking difficult and over-looked questions.

Expanded with a first person head shot, audio recording and note-taking the media techniques helped perform and rouse conversation. When engaging with people and prompting through recording across different media the PAR process offered the facility of producing rich authentic information. It also allowed us through applying workflows and protocols, iterative techniques the opportunity to bring measure to in-depth research.

As a research strategy this was put to particular focus in shadowing three council workers at they conducted their rounds. Beginning at 6:30 with Steve Best at Ilford Station, as he moved through the market, cleaning away the litter of the night before; sweeping each street four times, two pavements, two gutters.

Using the barrow as a rig, a mounted time lapse recorded the operation and generated metrics of what entered the bin, as a visual record and also digital metadata. In the periphery of the shot we also understood the interfacing of Steve and ourselves to the environment and public. Also, that one can hide in the light of a uniform and perform tasks invisibly, particularly in a hi-visible.

We traced and recorded, street slabs in micro, brown red betel nut spittle at road crossings, question trade waste or council waste, rat holes, the wake of Ede celebrations, fly tipped clusters of mattresses, cabinets. Configurations of domestic detritus that grew over time as they were added to. To identify the sources of this waste there were searches of bags for names and addresses.

We have taken our noses from the ground and odour has diminished in our urban consciousness. As cities become olfactory muted, odours become greater taboo, particularly when they are bodily and human (Classen 1994). Food packaging litter, cigarette,

cans, needles. The social standing of cleaners, waste carriers and disposers is particularly low across all cultures (Pathak). These public workers understand the public realm intimately. After the homeless street sleepers we encountered, it is street sweepers who spent the most time in public on foot. As observers, witnesses and urban experts these workers have substantial qualitative and quantitative insight. With Steve this flowed from the debris the street offered up; where tracing through the shells of seeds between café street furniture we understand migration, work and worklessness, that smoking with its increasing social stigma is increasingly zoned, of prostitution and the removal of massage stickers on council furniture, posts and railings.

With the intention of producing a physical output further work took place through 3D scanning Steve to accuracy of 1/10 of millimetre, with a view to making visible and commemorating by intervening a sculpture of Steve in public. Provoking questions about the monument, durable civic values, complicity and responsibility.

#### **Legacy Intervention:**

To three dimensional map and cast the figure of a local long-term, well known street sweeper, both celebrating and making visible the presence of these essential actors within the city. The 3D mapping has already be undertaken using cutting edge scanning technology.

#### **Next steps:**

A full size casting of Steve, the street sweeper.

#### **Scalability:**

Although the output of this project are site specific and contextual, the process and methods used to meaningfully engage with public servants and the coalface of the city to gain deep and penetrative insight into grounded urban challenges is urgent.

#### **Project team:**

- Adedayo Osinloye, Public Health
- Victoria Olanlege, Public Health
- Rob Pyecroft, ADI
- LBR Refuse and Waste Management Services



### Summary

We might think of Walter Benjamin's Charles Baudelaire and that at street level, in dense urban situations that we become sensually dulled and blasé: the prevalence of the eye over the roar in the ear. Furthermore, the shift through modernity to the sensory predominance of sight and language of seeing, with its surface based and binary limitations of codifying experience. Classen (1994) suggests Osmology and the polymorphous qualities of smell within cultural contexts as a more appropriate scale to understanding identity and positioning oneself to oneself and the world. Visual media as research technique and a participative device provides opportunities to scrutinise the clarity of such an understanding. Discourse that has dissected the social and cultural realms of architecture and photography through to filmmaking, art, visual culture, provides further interdisciplinarity. The bastardised tools adapted for MR at times possess the reflective quality of a static image with its senses of ownership and power are combined with the narrative and linear quality of time based media explicitly bearing its construction. These conceptual bearings combined with the opportunities of producing valid and meaningful artefacts suggest further convergence of understanding the distinctive qualities of the phenomena recorded and reflexivity to the research to impact meaningful action and positive change. In platforming and digesting this media there is the opportunity to present with greater resonance the simultaneity of place, its amorphous and permeable qualities. As Jeffery Weeks (1990) suggests in 'The Value of Difference' within oneself there are competing cultural roles vying for power and with socially guided sensitivity, offer the means to navigate and decipher greater truths when conducting research in public.

In conjunction with methods for gathering first-hand experience common to social science, experimental arts-based practices offer creative tools and methods to capture and present likenesses, representations and maps of a location through a range of media. These multi-disciplinary methods were fused together in MR forming a hybrid tool kit to assemble an image of place. Not a singular rendering of a location but rather an assemblage of fragmentary experiences emerging from a place and (re)constructed to (re)present the complex reality. This methodology

fuses and fissions forms of knowledge, both local and outsider in an attempt to provoke the fragmented and veiled realities of a place to come to the surface and give voice to the city as a complex constituent entity more than the sum of its parts. Instead the city has a life of its own.

Acknowledged within this conceit is the flaw that a place can never be reflected in its entirety. An objective map is impossible and nor, in the case of urban design is it desirable. Instead, though a horizontal and collaborative process discriminatory readings are valued and reassembled. Repetition and assemblage as a means of overlapping and juxtaposing conflicting and conflated information, glued together and held apart with chance and uncertainly, provokes new readings of a location where the image of place edges towards a meaningful and useful abstraction that speaks to the view about its past, present and future.

We have described how the flexible methodologies prototyped within MR can be both replicable and scalable overcoming some limitations of localisation and previous PAR approaches. Through the legacy projects we can see how this opened-ended investigative process leads to unexpected socio-spatial interventions, unrestricted by the requirement to provide a built response. This methodology forms the initial part of a developing spatial planning framework, a framework to delivery new forms of urban and rural space through interdisciplinary collaboration.

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# Immersive learning experiences. The case of Bamboo Think Tank in rural Colombia

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## ABSTRACT

Using the workshop “Bamboo Think Tank; from Territory to Detail” as a tool, this paper examines the pedagogical value of immersive Live Projects in design education. The distinctive innovative characteristics of this workshop are the varied group of students working together coming from different international backgrounds with different levels of skills and resources; the organisers being a platform formed by professionals, academics and local community members with an interest in bamboo; and the focus on bamboo considered not just as a material but as a tool to empower all participants involved.

**KEYWORDS** Live Projects, community, social innovation, pedagogy, bamboo

## Introduction:

*“A key issue that should be addressed is the acute shortage of well trained, experienced professionals capable of formulating and implementing effective strategies in a variety of locations and situations, to work with the poor communities towards development of inclusive and sustainable cities in the South”<sup>1</sup> Joan Macdonald*

Estudio SPN<sup>2</sup> is a research-led practice founded by Juana Canet, Ruth Cuenca and Elena Gómez. We work between practice and academia and between North and South. Our focus is on the fields of architecture, development, urbanism, participatory design and research with a special interest in projects of community support through the design of productive cycles and strategies. We believe that architects can have a positive impact in the “social production of the habitat”<sup>3</sup> understood as the capacity of the

popular sectors of self-production of dwellings, new neighbourhoods and, in general, the territories they inhabit.

However, we find that architecture has lost the connection with people and places that could really benefit from it; there is a gap that architectural education seems unable to fill. Typically, architectural education is structured through a series of rituals, based in the studio and following the command of the tutor. The value is in creativity defined as architectural design and the outputs are drawings and models. Professional bodies decide the content of the curriculum with values that lean towards professional efficacy. We believe that for architectural education to be relevant to the challenging needs of society it has to address socio-political issues related to design and equip students with skills to respond to the contemporary complexities of each context.

Dean<sup>4</sup> already suggested in her reflections about the work of Rural Studio that a fundamental change in architectural schools is needed. She argued that academics need to remind students of the profession's responsibilities if architecture is going to inspire a community or challenge the status quo into making responsible environmental and social structural changes.

The workshop aimed to close that identified gap in a specific context. Additionally, there is a larger educational strategy behind this workshop which involves the transfer of skills and knowledge to the local community to achieve a larger impact. As Max-Neef<sup>5</sup> suggested, there is an opportunity in turning people's needs into potentials as they can motivate, engage and mobilise people and furthermore they can become resources. Some of the needs the community we worked with had, such as employment, education, appropriate housing etc. can be improved using the full cycle of bamboo with the right skills, techniques and products.

### Why bamboo?

Since 2011, Estudio SPN has been researching bamboo-guadua (guadua is the Colombian variety) as an engine for human development, studying solutions of habitability and urban regeneration in disadvantaged areas through the design of socio-productive cycles. We work holistically incorporating the social, cultural, economic and environmental aspects of the context of each project operating from the territorial scale to the domestic scale. Leff<sup>6</sup> (1986) argued that the environmental potential of a region is determined not only by its ecosystem structure, but also by the productive processes that different socio-economic formations develop in the region. The use of resources depends on the value system of communities, on the cultural significance of their resources, on the social and ecological logic of their productive practices; also on their capacity to assimilate modern scientific and technical knowledge to their values. This approach supports our idea of the socio-productive cycles putting an emphasis on the social and cultural processes in a region. These cycles incorporate bamboo in all stages from planting, harvesting and treatment, designing of crafts and furniture and finally housing construction.



Figure 1. Diagram of the sustainable productive cycle of bamboo. (Estudio SPN)

Bamboo is local to the coffee region in Colombia where the workshop took place and it is part of the vernacular architecture of the area. However bamboo has a reputation of being the 'material of the poor' which stigmatises it between the people that could benefit the most from it. This was one of the challenges that the workshop aimed to address.

Bamboo-guadua has excellent environmental properties as it is fast growing, earthquake resistant, absorbs CO<sub>2</sub> and avoids erosion. It has good mechanical properties when used as construction material; it is known as the vegetal steel, and the Colombian Building Code allows two-storey building construction with it. Bamboo has been used in vernacular architecture in the tropical regions as it is readily available, easy to use and affordable. Tools required to work with bamboo are basic and accessible to all and it can be easily combined with other materials such as timber. These characteristics make bamboo an appropriate material with an 'appropriate technology'. This concept was defined by Schumacher<sup>7</sup> as an approach to community development consisting of a body of knowledge and techniques which follow a self-adaptive and dynamic system. These ideas underpin our productive-cycle strategies.

### Background

Estudio SPN's research ideas were formulated in a project that was awarded 1st Prize in the International Competition of the Observatorio Panamericano del Paisaje, Territorio y Arquitectura (OPPTA) in 2012 for our response to 'Emergency Interventions: how to manage the integral development of habitability in a territory affected by floods linked to climate

change in San Cristóbal, Colombia'.<sup>8</sup> The trip to Colombia to present the project allowed us to meet Carlos Hernandez, director of the PEI<sup>9</sup> programme (International Studies Programme) of the School of Architecture and Design of the Pontificia Universidad Javeriana of Bogotá, and was the start of an international collaboration between a research-led practice and a University.

The PEI programme started in 1996 aiming to connect international and interdisciplinary efforts in the generation of new knowledge and solutions to the many social, political, economic and environmental problems Colombia was faced with. PEI's methodology is based on workshops taking students outside university, focusing on specific solutions responding to the local issues with the idea that small scale interventions can generate great impact. The workshops apply the idea of 'collective intelligence'<sup>10</sup> assuming that each part of the world possesses valuable knowledge, popular and generational wisdom, about their own environment, materials and construction systems which together with current design ideas and technology can produce innovative solutions.

Since 2013, Estudio SPN and PEI collaborated in various projects in Palomino, a small rural village in the Caribbean coast where PEI had been working for several years, a masterplan; a proposal for a vocational school which was awarded 2nd prize in the Latin American Development Bank competition and a participatory workshop working with the local community.

Following these collaborations, they co-founded Bamboo Think Tank (BTT); an international knowledge platform formed by practitioners and academics from Spain and Colombia to promote the use of bamboo in the social, economic and environmental development of vulnerable communities.

In 2014, BTT organised this international workshop open to architecture students and graduates with an interest in the material and in working with communities. The location was the village of Caimalito, an informal rural settlement that started in the 1970s along the disused rail tracks near Pereira. Caimalito is located in the coffee region by the Cauca River, more than 300km away from Bogotá. The region suffered a big economic downturn in the 1990s with the coffee crisis when Caimalito received new

inhabitants. Nowadays it has high levels of poverty and unemployment, bad transport links and limited access to essential services. The area has electricity and fresh (non-potable) water and only some dwellings have sanitation.

BTT was also connected to Fundación Escuela Taller de Bogotá<sup>11</sup> (FETB) where the workshop developed during the first week. This is a Vocational Training School providing skills in traditional trades such as carpentry, construction, instrument making and cooking through methodologies of learning by doing, typically through the refurbishment of heritage buildings. Students come from disadvantaged backgrounds in areas of Colombia affected by the armed conflict.



Figure 2. International, PEI and FETB students working with bamboo in the FETB's construction workshop. (Estudio SPN)

### The process

The approach and pedagogical intent of the workshop was to learn about bamboo as a material and about participatory design techniques working with the community, to produce an outcome that will improve some aspects of the habitat for the local people and recover the disused Caimalito train shed for community use.

The participants:

- International students from Spain, Italy, Macao and Venezuela, typically young graduates.
- Colombian carpentry students from FETB, coming from disadvantaged backgrounds.
- Colombian students from PEI programme; typically coming from middle class or privileged families and for whom this workshop was the first project of



their term.

- Caimalito community; a group of young children, a group of teenagers, a group of mothers from the local school and a group unemployed men and some senior citizens.

There were significant differences between participants in terms of personal background, knowledge and resources which was a challenge as well as an opportunity. If we understand 'community' in the wider sense as 'sharing or having certain attitudes and interests in common', we can also consider each group as a small community. The premise was that all communities were equal, working together towards the same goals. The international and PEI students started working together with the FETB students in their facilities and then they moved to Caimalito where they worked with the local community.

The workshop structure facilitated social innovation, understood as 'the new social practices created from collective, intentional, and goal-oriented actions aimed at prompting social change through the reconfiguration of how social goals are accomplished'.<sup>12</sup>

The workshop used a combination of theoretical and practical activities. Students started by exploring the potential of the material and making prototypes in the FETB's workshop. There was a clear exchange of knowledge between the FETB students who were more skilled with the tools and the rest of the students who were stronger conceptually. Bamboo masters such as Simon Velez and Germán Rubio gave lectures and guided visits to students. German Rubio oversaw the students through the entire process. Simon Velez visited FETB and Caimalito to see the progress and took students to visit the Colombian pavilion for the Hannover Biennale he designed in 2000. Students also visited bamboo plantations, treatment plants and other bamboo constructions to understand the full cycle and potential of this material.

On arrival to Caimalito, students analysed the area and engaged with the people. They organised participatory design workshops with the local community to explore issues and potentials of the place. Students decided to focus the work on the recovery and revitalisation of the disused train station building and surrounding area for cultural activities as this would benefit the entire community. There was a long term ambition which was to turn this

disused building into a Vocational School similar to FETB which will benefit the local youth; however this goal encountered political problems with the local government.

Students were organised in groups and distributed tasks on a daily basis. The members of the local community joined the work in the groups when they had available time. A group worked with the local children regenerating the garden adjacent to the old station; others designed and made furniture with bamboo such as a working table and benches collaborating with the local teenagers; and others designed a small artefact to be used as a play area or a stand to watch films projected on the station walls as an improvised cinema. One member of the team was a Colombian film maker who was in charge of filming the workshop. He also organised screenings for the kids in the evenings to activate the place.





Figure 3. Students visiting a bamboo plantation (top); participatory design workshop with the group of children (middle); local kids helping to build a bamboo playful surface for their playground (bottom). (Estudio SPN)

### Pedagogical review of participatory learning

The workshop can be framed within the Live Project education. Anderson and Priest's<sup>13</sup> definition is the most inclusive stating that "a Live Project comprises the negotiation of a brief, timescale, budget and product between an educational organisation and an external collaborator for their mutual benefit. The project must be structured to ensure that students gain learning that is relevant to their educational development."

In this case; the educational organisation is BTT which is not a standard academic institution; the students involved are not a typical design studio group either but a varied group with a mix of origins, backgrounds and abilities. Time was spread over two weeks and budget was limited. The external collaborator was the community of Caimalito in rural Colombia. There was an overarching brief which participants needed to make specific; proposals aiming to improve the living conditions of Caimalito using participatory design and bamboo as tools.

A key aspect of live projects is the inter-disciplinary and collaborative learning processes. A model that explores these is the "Situated learning: legitimate peripheral participation"<sup>14</sup> where both formal and informal learning are incorporated and students' individual identities and their role in the community and discipline are valued in the learning process. It locates learning in the process of participation as an evolving set of relations, not as a cognitive act. Situated

learning queries what type of social engagements provide the proper context for a particular learning to take place.

Reviewing North American literature, the concept of Service-learning emerged as the theory that embraces explicitly the idea of working with disadvantaged communities. Service-learning is understood as the various pedagogies that link community service and academic study so that each strengthens the other. Felten and Clayton<sup>15</sup> highlighted that Service-learning produces positive outcomes in many areas and argue that the pedagogy's most significant outcome may be the transformative learning that can result for all participants. However this model has been criticised in some instances 'because many, if not most service-based learning situations involve an unequal starting point in terms of technical expertise, access to information, and the ability to negotiate with public and private bureaucracies, there is an inherent risk of exploitation where the community setting is used as a laboratory to serve the university'.<sup>16</sup>

From an ethnographic point of view in the field of architecture, Carroto<sup>17</sup> investigated the impact of service-learning projects in the US as an observer through various case studies. She found conflicting intentions and aspirations between service-learning in architecture and its implementation questioning who or what is served arguing that the established systems preclude effective civic engagement. She studied the social forces affecting service-learning, how students' work met course learning objectives and the relation with communities' unmet needs. The distinctive 'civic' part of these projects (from a pure design & build) was typically underachieved.

This workshop had some unique factors. Even if there was an aim to help a disadvantaged community, this was achieved via participation and empowerment of the local people, avoiding paternalistic approaches. The role of design was a vehicle for communication and empowerment through designing with a material that is familiar to the local people but not to the students. Rather than bringing studio-formulated proposals to be implanted in the area, the workshop brought students to the site to learn, understand and propose with and within the local community. This way, students learnt about the socio-political conditions that affected the area and questioned the role of design in those scenarios.

On reflection, we observed high levels of engagement, empathy and motivation which were due to the immersive experience in a new environment and the collaboration with the community. Students lived in a farm built with bamboo adjacent to Caimalito which belonged to one of the members of BTT who has a strong relationship with the local community. The workshop activities enabled participation with and within the community and the practice of designing and building with bamboo. This could be understood as an immersive Live Project experience.

The concepts of ‘immersion’ and immersive learning environments are relevant to our observations during the workshop. “Multiuser immersive learning scenarios<sup>18</sup> (ILS) hold strong potential for lifelong learning as they can support the acquisition of higher order skills in an effective, efficient, and attractive way. By including collaboration in the learning scenario, multiuser ILS will transform learners and learning in three ways:

1. Transforming a participant from a passive recipient to an empowered actor.
2. Transforming content from information that learners have to remember to a tool that learners can apply to reach certain targets.
3. Transforming context from an assurance that “this knowledge will be relevant in the future” to an actual reality where learner’s actions have immediate consequences” (Nadolski et al., 2012).

The workshop facilitated learning to all participants. The main tutor in Caimalito was a bamboo master builder from a nearby community, teaching all students the different bamboo techniques and skills. The fact that he was the expert teaching architectural students and other community members created a horizontal environment for everyone to learn. In this context, Freire’s critical pedagogies<sup>19</sup> (1970) can be understood as the learning that places an emphasis on the possibility of change in the lived experience of those who are engaged in learning. Freire’s teaching practice values the students’ cultures and aims to dissolve the teacher-student relationship into equals where both teach and learn. Freire’s theories are relevant to the workshop as a horizontal structure was achieved allowing learning to all and empowering the local people to be in charge of modifying their own environment.



Figure 4. PEI and international students working with adult members of the community making furniture and artefacts with bamboo. (Estudio SPN).

### Discussion and student’s perspective:

The methodology is based on qualitative research from our observations and questionnaires conducted with the participants.

The majority of the responses to the questionnaire came from international and Colombian students. When asked about their motivation to participate, most of them were motivated by the prospects of working with a community, others wanted to discover bamboo. In their responses about what was different in this workshop they highlighted the “immersive aspect of the workshop”; others considered that it was “different from what we normally get taught that architecture must generate big impacts with complex and costly buildings”; others said “the social component, innovation and the qualities of the material”; and “work directly with the community, understand their living conditions and culture and most importantly get involved with the people to whom the project is aimed which makes it real”.

All agreed that having a diverse group of



participants was a very positive aspect of the workshop. Through their responses one can see the dynamic relationship between groups highlighting that the group they were most in contact with was the local community. When asked which group they learnt the most from, it was very close between the organisers and the community.

We witnessed the exchange of knowledge between the participants but in order to have a clearer idea of how this happened, we focused on students' reflections on what they thought they had contributed to the community:

"We [students] were an incentive to motivate community to continue with the process of transforming the place". "Different points of view and applications of architecture. Here the learning is open to all, community and all types of students". "To take advantage of local resources; how small actions can generate a big change for the community". "Participatory design. The will to create active local initiatives strengthening community". "Students provided their work and ideas. A single specific action has a limited contribution to the community; continuity is required to increase impact". "Dignify bamboo as a material and exchange design ideas". "The self-sufficiency and independency that can be achieved when they know how to use this material to progressively improve their dwellings"

When asked "what was Caimalito's community contribution to the students?"

*"A new way of approaching the profession 'horizontally' including everyone's knowledge to contribute to the general progress."*

*"We saw an aspect of life and a reality of the country that we are not used to."*

*"A synergy was created, we learnt from them, they inspired us. They contributed with their vision, their time and their knowledge."*

*"Realize that there are people with plenty of needs and that one can help to fill some of them is very valuable."*

*"Showed us how they cope with scarcity of resources."*

Some students were critical about the brief, as they felt that the outcome (as the built product) was not impressive enough and that a more prescriptive brief would have allowed for more focus and a better 'product'. However our view was that the process was as valuable as the product and we didn't want to dictate

the outcome as it should be defined by all participants as the result of the process. We did not want a situation where the community is alienated from the outcome of the workshop.



Figure 5. Bamboo structure for seating and playing- under construction and in use by local kids. (Estudio SPN).

One of our concerns was the question of time. How long do these experiences need to be to achieve their goals? Processes need time, especially when dealing with a varied group of participants, a community and different locations. The workshop was ambitious, complex and involved risks. It was the beginning of a longer term engagement, the first step aimed to change the way people think about their built environment and resources. Hamdi<sup>20</sup> is one of the advocates of small-scale; incremental change involving community dynamics.

The idea behind working with the community

was the transfer of knowledge whereby the students will bring fresh ideas about how to use bamboo and its potential to improve the area, and the locals will bring the knowledge about the place and local culture. Bamboo was not just a material but an empowering tool for the community to use creatively, removing the stigma of bamboo as the 'material of the poor'. However there was not a significant change in the way bamboo was perceived; changing a cultural issue will need more than the enthusiasm of a group of students.

The legacy of the workshop and what happens when students leave the site was a priority. This workshop started as the first of many, creating a connection with this community that would be sustained in time. It effectively worked as a catalyst for various actions:

1. The disused station building turned into a community space;
2. Caimalito continued to be the site for the Colombian students during that semester, some of them returned on their own initiative;
3. The workshop triggered talks with local government and this facilitated the students of the FETB to convert the fire station building (adjacent to the train station) into a cultural centre;
4. PEI students went back to Caimalito after the cultural centre was finished and improved the public space around it;
5. The workshop initiated the students from the local school of architecture at the Catholica University of Pereira working with the community of Caimalito.
6. The workshop led to a further collaboration between SPN and PEI who together submitted a proposal for the Solar Decathlon<sup>21</sup> competition in Latin America & Caribe. The proposal was selected for the construction phase which was developed by the PEI students up to the construction of a housing unit at the end of 2015 in Cali winning the 1st prize in the Architectural section.

Was social innovation achieved? How can this be measured? We understand social innovation as new configuration of social practices and actors in certain contexts with the aim of answering some of their needs in a different way than established practices. From our own observations the workshop enabled the collaboration of various groups which wouldn't have worked together otherwise, allowing them to discover how much they could benefit from that collaboration. The international students joined

with genuine interest in the subject, most travelling from very far. This fact motivated the local students and the community. We observed the exchange of knowledge between the groups when working together. In conversation with members of the community, they highlighted the integration and immersion of the students in the community as they not only shared the workshop activities but also shared meals and leisure time together.

## Conclusion

The immersive nature of the workshop facilitated the horizontal participation of the different communities involved in the activities, enabling social innovation which empowered the community of students as much as the local community.

Through this workshop, all participants discovered the potential of bamboo as a material and the challenges involved when building with it. The bamboo-related skills acquired during the workshop were an empowering tool for all participants, especially the local community as bamboo is part of their environment. However, the ambition of removing the stigma of the 'material of the poor' was not fully achieved as we realised that this would require a longer term strategy and action. This was the pilot workshop aiming to establish and strengthen relationships with the local community groups as well as the local government. To achieve longer term results, there needs to be an agreed target and a strong relationship between a well organised community and the educational organisation requiring a lot of planning and commitment from the parts.

Students learnt technical skills in an applied learning situation; they also gained awareness of the social, environmental and political issues that affect the area. These students discovered the complexity of a rural environment as a living organism which otherwise would have been just a site plan in a studio based project. This opens various issues that affect architectural education and the position of design as a social practice. A key question is whether architectural education is ready to respond to the complexity of the issues affecting the world outside campus. Our view is that the gap is too big to be closed purely by architectural design. Architecture is partly a social practice but the way in which it is taught now, seems unable to address all the human, ethical, and political



aspects of the environments in which architects may work. For this to be part of the education of the architects of the future, architectural schools need to strengthen the multidisciplinary aspect of the teaching teams and these teams need to be involved in Live Project experiences. Live Projects should be included as an essential part of the curriculum, understood as immersive experiences of a sufficient length that allow for a real impact on the students and the communities that connect with them.

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# Crossing Cultures.

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## ABSTRACT

The title suggests journeys and mixing of cultures. The project brings depopulated Italian villages in close proximity with a growing need to integrate refugees arriving on its southern coast. This is an on-going research project based in the small abandoned mountain village Belmonte Calabro in Southern Italy, which started in summer 2016. The region is currently a frontier for migrants and refugees from West Africa, attempting to gain access to Europe, as well as a frontier for Italians, attempting to sustain their towns against the magnetic influence of the growing cities. The project focuses on the development of public spaces and buildings which can enrich the everyday life of the town, steered through consultations with key players which include refugees and inhabitants. These dialogues address the challenging aspects of Belmonte's future - currently a derelict town at the fulcrum of migration from the southern hemisphere. The problematic, but potentially fortunate coincidence of these two is the need to settle and (re)build local communities, which is fuelling the subject of inter-disciplinary cultural integration in a wider sense. The project was developed after a student led summer workshop, which casts its nets wider than the academic studio. This brought various government stakeholders in holistic dialogue with Cass students and tutors, seeing this collaboration as an innovative contribution to the ontology of practice. Our working method has involved discussions with refugees, town inhabitants, school children, local and regional government, asking how this inevitable crossing of cultures - induced by global politics - can continue to create the richness of architectural setting already enjoyed as part of Italian culture and at the same time develop the skills that empower both, brief encounters and settled stays. Resulting from investigative workshops earlier in the year, the projects developed during the past academic session have been speculative. This paper highlights participatory events based on our previous speculations, organised by *La Rivoluzione di Seppie*<sup>1</sup>- an active ensemble interested in exploring the boundaries of practice and education. Our endeavour is to surface Belmonte's cultural memory through participatory practices and to re-imagine the village's identity. Our interests have therefore explored both, theories on cultural memory and on participatory systems of governance. It is worth noting that the Calabrian virtue fortunately is hospitality, and as such Crossing Cultures have been practiced in their cuisine, customs and architectures for centuries. As a result, our group of architecture tutors and students have sensed little estrangement as curiously we are but another foreigner engaged in dialogue along a border of history, culture and human finitude.

**KEYWORDS** crossing of cultures, abandoned village, ontology of practice, contemporary migration, foreigner, cultural memory

### Introduction

The live project *Crossing Cultures*, based at The Cass, explores a new form of architecture design practice, bridging boundaries between academia and professional practice. The work is developed within the architecture studio, but takes students beyond the conventional studio space. Undergraduate and postgraduate students, recent graduates, tutors, and different stakeholders outside of the university are in dialogue with each other, jointly involved in developing the architecture project.

While the overall project evolves beyond one academic year and stakeholders might shift, our students and graduates continue showing commitment often enabling easy transition into entrepreneurial practice. Students are encouraged to rethink the traditional role of the architect as a service provider, develop new initiatives which can offer future employment, and contribute to the innovation of current culture in architecture.

It is an important methodology of *Crossing Cultures*, which opposes more established architecture education. In this methodology, architects and students become community collaborators over a long period of time, relatively free from the academic calendar. The unrestricted engagement with a place and community allows trust to be built up and encourages an experimental approach to projects, especially in the challenging socio-geographical contexts, that we work. This participatory working method develops a presence in the place and establishes new networks amongst the communities we work in, all required to make comprehensive and often radical changes within challenging places, which include physical as well as social engagements. In return, our presence in this context empowers local communities and gives the university a presence outside of academia.

Sited in Southern Italy, the project attempts to develop a cross cultural identity through participation. Initiated, organised and publicised by a group of students who formed *La Rivoluzione delle Seppie* (RdS) - an active ensemble interested in exploring the boundaries of practice and education - we, their tutors, were invited to participate and give direction to the questions they were asking. The title *Crossing Cultures* suggests journeys and mixing of cultures to develop architecture and urban proposals for Belmonte Calabro, an abandoned mountain village in Calabria.

The project started in summer 2016. Currently running in its second year, it has already created a growing network of local people and other stakeholders involved.

*Crossing Cultures* has already established an overtly participatory engagement with the subject for our students, as well as integrating “our clients” in this engagement. The client in Belmonte is not a singular commissioner like in a traditional client/architect relationship, but our client body is made up of a network of partnerships between local community members, local stakeholders, our students and the tutors. Here, the architect is not a service provider - an “agent operating for”, but becomes a collaborator and partner - an “agent operating with”.<sup>2</sup> Clients become integrated as co-learners and co-creators of the projects, but for us most importantly, they also become co-educators to our students and contribute to the overall learning experience.

This collaborative architecture practice is well placed within the university context, offering students the experience of working on real issues for real clients within their studies, whilst enabling an experimental and inquisitive approach to architecture. We have found that our students develop new and unforeseen solutions while working in this unconstrained and open-ended manner, which is opposed to an architect who is a service provider “by appointment” and with limited time resource.

The project in Belmonte focuses on issues, which bring the depopulation of the village in close proximity with a growing need to integrate refugees arriving on Italy’s southern coast. The region is currently a frontier for Italians, attempting to sustain their towns against the magnetic influence of the growing cities, and for migrants and refugees from West Africa, attempting to gain access to Europe. As Belmonte empties, its history also fades, leaving only traces of its cultural memory<sup>3</sup> in its fabric; architecture, squares, domestic bricolage, food, stories and music. On the other hand, the migrants and refugees, mostly young men, bring only things they can carry, so memories are embedded in their belongings, their music, food and customs, as the only precious remains of their cultural identity.

The interest in the site is on one hand our attempt to influence politics and the geography and region of Belmonte to become a larger vision of European integration. On the other hand, it is our very specific

interest in Belmonte's spatiality. It seems, the town was built without any concept of privacy, and its medieval architecture creates true civic-ness through the promotion of human interaction and spatial closeness. Steered through consultations with key players, including residents, politicians, agriculturists and refugees, the project develops public spaces and buildings which can enrich the everyday life of the town and create a larger scale strategy for the area.

A student-led summer workshop took place in Belmonte in 2016, outside of the academic year. This brought various local stakeholders in holistic dialogue with students and tutors from The Cass and initiated the projects, developed during the following academic year: undergraduate and postgraduate students made diverse proposals for Belmonte, ranging from real events, for instance a group of undergraduate students bringing local school children into the abandoned town centre and turning it into a place of memorable play and activity, to postgraduate students developing urban and architectural strategies to strengthen Belmonte's identity. A second summer workshop took place in July 2017 in order to test the students' proposals through 1:1 making workshops and a series of events with local stakeholders. In addition, we held interviews with local and regional specialists to draw upon external and local knowledge (refer to interview extracts in main part of this paper).

The events organised had immediate impact on the locals' use and perception of the old town spaces. As a result, and proving the effectiveness of the events, new opportunities have developed, such as formalising a Memorandum of Understanding with the Municipality of Belmonte to provide a physical base in Belmonte's old town for our students and staff to return to for research. In November 2017, we will be returning to Belmonte with undergraduate and postgraduate students to advance existing projects and propose new ones, focusing on the development of public spaces with the aim to (re)build local communities and fuel the subject of inter-disciplinary cultural integration in a wider sense. We will set up a research "lab" with a public interface in the old town to become a base for collaborative work and to develop projects which are physical, social and sustainable and reflect a vision for the town's future. Involving local communities and practical knowledge into research with local expertise and specialist knowledge from academia, we

want to bring vacant sites to life imaginatively, while demonstrating innovative potential uses through organising events and happenings, and continuing engagement with the local communities.

The Calabrian virtue fortunately is hospitality, and as such Crossing Cultures have been practiced in South Italy's customs, cuisine and architectures for centuries. This is also the ground for students and tutors becoming collaborators and proposals being presented as "gifts" to local communities, instead of being considered as "a service". As a result, our group of architecture tutors and students have sensed little estrangement, as curiously we are but another foreigner engaged in dialogue along a border of history, culture and human finitude.

As practitioners, part of our concern has been how we enter the politicised stage, and for this reason have treaded lightly across its fragile landscape, taking leaf from Elinor Ostrom: "Organizing is a process; an organization is the result of that process."<sup>4</sup>

The format of the paper makes dialectical links between a series of interviews we conducted with specialist areas of the workshop and the way the participants (students, refugees, villagers) experienced the key sites in which the workshops were conducted.

### **Surfacing the latent Figure of a Town through participatory Practices**

The project was attractive as a potential subject for the studio because it identified social, political, cultural and architectural issues involving agriculture, property ownership and cultural crossovers in close proximity. This part of the Mediterranean has been experiencing the effect of migration north; across the waters, as refugees attempt to find safe haven in Europe, and within Calabria, as young Italians seek work in the northern cities and leaving the elderly in the depopulated hill towns behind.

So far, we have worked dialogically with the project through drawings, sewing, theatre, furniture making, dancing, making music, cooking and eating; skills and specialisms that each of the stakeholders have brought with them. Our engagement with villagers and migrants aims to develop Crossing Cultures as a sustainable and collegiate identity for the community and precipitate industry.

We do not consider our role as architects, solely confined to the pragmatics of building, but also as

“cultural protagonists”, stimulating questions through involving the “practice of embodied memory”<sup>5</sup> within the spatial context of the village and its surrounding areas. What became noticeable during the last summer workshop and we will describe here, was the way in which the different people involved – ranging from refugees to representatives of the municipality – jointly re-imagined and re-engaged with the public squares and spaces in the village. Each square taking on a new character in relation to the imposed activity, this began to give a new spatial identity to each site and the village as a whole. As activities progressed during the summer workshop, it became clear that the inert character of the squares were being surfaced, unwittingly as they were revisited through the events which involved making, dance, dining etc.

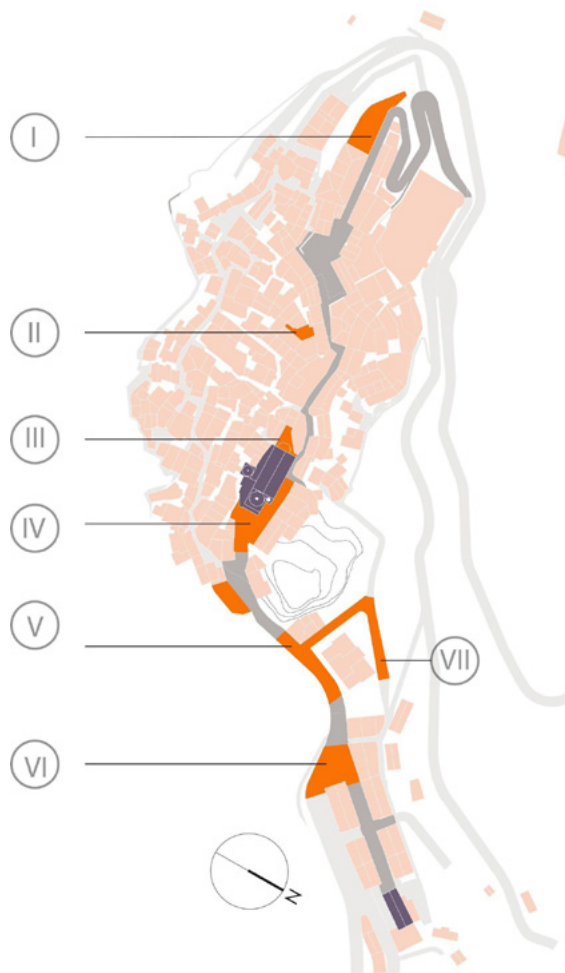


Figure 1. Belmonte village showing piazzas (authors & Estelle Hobeika)

Researching the village from afar already brought a rich catalogue of histories, involving nobility, industry and community that served it. In contrast, the workshop program focussed on culturally engaging suburban dwellers, elderly, refugees and students within the village. This became animated and most fulfilling, when played out in selected Belmonte locations. Here, we discovered reciprocity between the chosen activities and the qualities of the chosen squares to host the activities, which surfaced appropriate practices of behaviour in accordance with scale, views and occupancy of the chosen village locations.

The following describes the layout of the village in relation to the series of squares threaded along the central east-west axis, from sea to mountains, an axis which in the old town has spatially divided civic from residential. Although Belmonte's origins are medieval, the most prestigious buildings are from the 17th century and form the “prow” of the village overlooking the sea. From this vantage point the main street runs along the “ridge” of the mountain in an east-westerly direction, hosting seven squares of varying scales and typologies. It is notable, that from west to east, the sequence, scale and outlook of these squares form a civic hierarchy. The most westerly promontory, historically associated with civic wealth and pride, is now almost entirely abandoned. In contrast, the most eastern squares associated with the everyday are almost entirely inhabited and became the most used parts of the town. Almost centrally positioned is the Piazza Galeazzo di Tarsia, which establishes a break between old to new; civic and every-day, depopulated and populated. The sequence of squares along the main street form nodal points to combine audiences for both residential and civic engagements throughout the village. Each square therefore is already characterised by its position, frequency of use and scale along the “ridge” in relation to, civic-ness and every-day; for example the village library in relation to bars.

#### The “prow”, square I:

Jane McAllister (JM): *“Would it be beneficial for the old town if the demography changed from currently very old inhabitants to include more young people?”*

Luigi Provenzano (LP), vice mayor of Belmonte: *“This is a national issue, and it is time for change. We need to invite more young people back to the old towns.*



*There are areas in North Italy, where specialised schools have been moved to small villages in order to attract young people and families. I personally would like to see an international school in the old town of Belmonte, creating a lively international environment."*

The original entrance to the town would have been announced by the handsome 17th century uninhabited Palazzo Ravaschieri Fieschi della Torre through Via Della Porta di Mare. This square at the "prow" of the village is surrounded by a number of walled gardens which cascade below the main entrance square and conceal a passageway, which connects with the historic fort in the marina 200 metres below. On the third evening, RdS had arranged for a traditional Calabrian band to play ethnic music, mixing traditional and modern instruments, attracting people not only from the village but from the surrounding municipality.

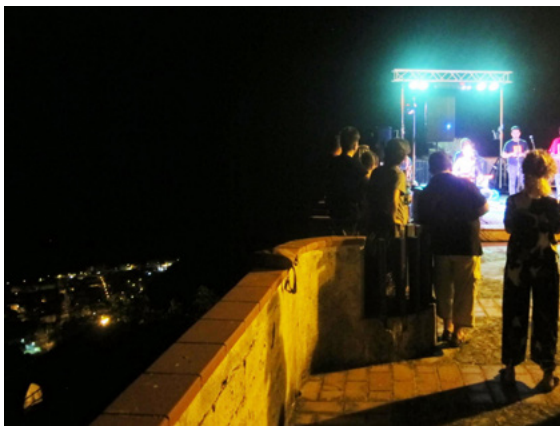


Figure 2. The "prow", square I (authors)

We argue that the effect of the band in this location, in particular its ethnicity, was to animate the environment through cultural memory<sup>6</sup> in a number of ways, which then became valuable in re-imagining this area in its contemporary context. Firstly, the "embodied memory",<sup>7</sup> revisited spatially through performance, dancing and spectating, allowed the partiers to explore the territory experientially and negotiate the space through the spectrum of intimacy and public-ness in relation to scale and its appropriateness of use. Secondly, the re-imagining happened through cultural association of objects and events; the hybridity of modern-traditional music and instruments played folk, ceremonial, dance, and brought refugees, suburban and villagers together through dance. Thirdly, the re-imagining was associated with spatial hierarchies and

a sense of overlooking. As the event took place on the "prow" of the village, this meant overlooking the sea, suburbia, a fascist monument and the sky as a backdrop to the musicians' stage. The location brought a sense of metaphysical elevation to all dancers, locals and who had travelled across the sea.

#### **Piazzetta, square II:**

JM: *"Our interest in Belmonte is that we see lots of things happening here, which represents a microcosm of what we see happening on much larger scale in our large cities. Understanding the mechanisms here on a smaller scale also will create a knowledge to be transferred to a larger scale. How do you think a laboratory between Belmonte and Londonmet could benefit the town?"*

LP: *"Opening up a laboratory for collaboration here in the town, I wish this would happen. This could include to partner up with a Calabrian University. The municipality can find a space in the old town for you as a base. One of your students proposed a project which opens up the fragmented small houses into a large space. This could become real, if resolved in a simple engineering way."*



Figure 3. Piazzetta, square II (authors)

Continuing along the main street to the next square, we enter a piazzetta through a narrow passageway on the south side of Via 4 Novembre. This tiny square, no more than eight metres in diameter, frames an oleander tree which gives the square a distinct floral smell contained between the walls. Here, the piazzetta was only able to host a couple of people on the "dance floor" at a time, so most of us sat on the surrounding steps to the houses focussing the gaze inwards onto people, clothing, their dance steps and movement. This gave the square the quality of a domestic living room, inhabited by a public family party.

**Piazza Santa Maria Assunta, square III:**

JM: *"What do you think has been achieved with the events of "Crossings" for Belmonte's inhabitants?"*

LP: *"I consider this a journey which has started, bringing a different way of looking to our town. "Crossings" brought an outsider view. Your research, point of view and way of thinking about this village is very important for us, because it is different to the Italian way of seeing things. The community of Belmonte would not have been able to believe and see things, as it can now after the events."*

Piazza Santa Maria Assunta is situated at the foot of the steps to the main church entrance, and larger than the previous square, which we called the "domestic living room". This square is conveniently formed to create a stage, with the steps forming the auditorium, balconies and side entrances creating stage and backstage. It is an intimate public space, where during the summer workshop projects were presented and films projected. During our stay, an afternoon wedding ceremony happened, which according to its tight entrance onto the square increased its privacy on such occasions.



Figure 4. Piazza Santa Maria Assunta, square III (authors)

RdS hosted a seminar with anthropologist Gian Piero Frassinelli, co-founder of *Superstudio*. Gian showed a TV series called *Meet the Natives* and originally made for Channel 4, which depicted five elders of a tribe from an island of the Pacific archipelago in a reversed anthropological role visiting the Royal Family. It showed footage at a finishing school, where the tribe members were introduced to the etiquette of dining and fake fox hunting, thus, highlighting the absurdity of ritual customs out of context. However, it did also highlight the necessity for

recognising cultural belief systems and their evolution in new contexts to form new cultural identities, raising questions to the residents of the village and the workshop participants about their past, present and future.

**Piazza Galeazzo di Tarsia, square IV:**

JM: *"How has the initial design of the furniture been transformed and taken over by people who built it, and what did it then become?"*

Giuseppe Grant (GG) from architects collective Orizzontale, Rome: *"We see our role as mediators, guiding the process, but not the final outcome. We have developed a prototype which can develop a new typology with variations. We wanted the construction to be possible within a laboratory-style workshop situation, defining clear rules and allowing flexibility in the making. We have pre-fabricated the steel profiles to guarantee the rigidity of the structure, still, flexible enough to allow the participating community and refugees to add their own creativity, for example pre-drilled holes suggest an additional structure can be added."*

Situated in one of the larger squares to the rear of the church, Piazza Galeazzo di Tarsia became a bustling industry of constructing furniture and carnival props. From the rear of the church perches the bust of heroic 16th century Galeazzo di Tarsia, an aristocratic merchant who supported both the academic culture of the region as well as the rights of the common farmers, making us feel as if we were in good company. The ground floor of the library opens with generous doors onto the square. With equally grand elegance these rooms served us as sewing workshop and general storage area, as well as functioning as the village museum with an oversised shelf cornice, supporting many ancient pieces of pottery and carefully preserved artefacts. On the later evening of the carnival procession, the square's versatility seemed unsurpassed: the props stood on the east side, their flags billowing in the wind, casting long shadows across the courtyard, while a yoga session "Om-ed" and the church bells claimed their territory as well. As the sun went down and the workshop finished for the day, materials were stored in the library garage and the Vespa "farm truck", used during the workshop, settled in its elaborate garage beneath the carnival props.



Figure 5. Piazza Galeazzo di Tarsia, square IV (authors)

Throughout the three activities inhabiting this space – furniture making, carnival floats construction and tablecloth sewing – the scale, location and generosity of neighbouring buildings in this square highlighted its ability to accommodate overlapping programs. The square became a site of both, spiritual and secular inclusion; a place to eat, work, park the car, and practice yoga. The most important effect the square had on our understanding, was highlighting the importance of the interconnectedness of our practices, customs and behaviour, whether it be parking the car or travelling to the “Om”.

#### From old town to new town, squares V and VI:

Sandra Denicke-Polcher (SD): *“What model of integration can you see as agriculturist for Belmonte and its surrounding territory?”*

Prof. Silvia Mazucca (SM), agriculturist at Università della Calabria: *“The particularity of a territory always needs to be understood first. This is not only about making money, but about respecting nature and a good quality of life, which I call an “economy of happiness”. In lots of cases this means that an agricultural product needs to stay more local, and the solution is not to export the product, but to “import*

*people” and link industry to tourism. It also connects “la bella vita”, the sea and other aspects of the territory, to industry. It attracts people, who themselves bring their way of living and culture to this territory. This way of local cultivation and “importing people” is my vision for Belmonte. My dream of integration is this: young people come from different parts of the world together, creating a critical mass to be able to move politics. In my view, Calabria doesn’t need Italy, but needs Europe. I consider this the last train to the future, it is in the hands of the young people who want to live here.”*



Figure 6. Via Michele Bianche, bike park outside “Men & Boys bar”, square V (authors)

From the “civic assembly”, with high cultural activity of ceremonial gatherings, scholarly preoccupations and industrious makings, the bust of Galeazzo di Tarsia gazes towards the “other” part of the town where high culture disembarks into one of the two bars in the lower squares. Unfolding from the piazza, a new tree lined pavement threads patches of shade in front of the most active part of the village, with the “old men and boys” 1960s style bar (V), a new town hall sporting hints of a Spanish hacienda, and lastly Suzie’s bar (VI).

Although these areas that run down to the bars are more like a street than a square, they are the local focus of the village. The “old men and boys” settle around the first bar with its wrap around fully glazed windows, allowing scrutiny of the comings and goings. Amongst the motor bikes, table football and long benches under the trees, old gents, who would usually survey the local talent from their shady seats were now curious with the mix of multinational students from a London university, busy with a group of refugees from the nearby centre. It is worth noting that the bar performs both a voyeuristic and communal role within the



village; and during the workshop it held both, a vantage point for people watching, and also cooked industrial quantities of delicious pasta for all participants in the project.



Figure 7. Via Michele Bianche, “Suzies Cafe”, square VI (authors)

On the other side of the town hall to the “old men and boys” bar, a little further down the street is Suzie’s Café, a traditional but homely cafe with a feminine interior and display cabinets showing her collection of designer espresso cups from the Milan Expo 2015: a formal indication of the duality and arbitration of sexes required for a balanced village.

#### Via Belvedere del Castello, square VII:

JM: Students and refugees suggested different associations in the canopy structures they constructed. What are your own memories and associations?

GG: *“The allegory to a carnival float is evident. My personal memories are of folkloristic nature and bring traditions back to the town. The parade with the canopies reminds me of a religious procession, like in Spain, where structures with the Madonna are carried from church to church. I like to “cross ideas”; the event of the “parade” and moving the structures was very important to create those memories.”*

SD: *“Leaving the project here today and returning to Rome, what is the future life and legacy of the structures made in Belmonte?”*

GG: *“The material object is part of a bigger and immaterial project. We left a greater “footprint” than the material one. The narrative, which the project brings with it, is very strong. The associations that people carry inside themselves and develop when seeing the structures in action, are manifold. This narrative, developed around the structures, is much bigger than the material structures and much more important to us.”*

Cooking and eating became an important part of the events, as we ate “al fresco” with the neighbouring Via Belvedere del Castello transforming into an “external dining room”. This became a way of gifting techniques, produces and flavours across different customs and cultures. Prior to leaving London, students from The Cass designed a sketchbook tablecloth as conversation piece, seeing the dining cloth could provide a framework for collaboration, and the act of dining a metaphor for negotiation. They had arrived in Belmonte with a sketch to initiate the tablecloth tapestry and the intention of working collaboratively with the refugees to develop a cross-cultural mapping of their journeys. The refugees quickly took the 12 x 1.5 m cloth and drew memories and ambitions which they then embroidered with pride. This was added to with further conversations, spills of wine and the happenings over lunch. With many settings, we were brought back the fictitious, representational or memorial embroidered images we saw next to our plates, which we shared and discussed over food.



Figure 8. Via Belvedere del Castello, square VII (authors)

The canopy for the external dining room took on its own importance, both in terms of its location and the finer detail of the enclosure, created in addition to the furniture which was made in Piazza Galeazzo di Tarsia. The most memorable and moving scene was, when on the evening of the Yoga gathering its canopy was ceremoniously carried through the streets to its final location on Via Belvedere del Castello. Referring to the carnival processions which are part of the village's cultural history, the canopy – although designed as a frame with an open program – immediately gathered symbolism from the Belmonte landscape and also offered private associations.

JM: *"How was the furniture designed and conceived? How did the "processional route" influence the design of the canopies?"*

GG: *"The briefing started two weeks before the construction. Rita's description of the students' projects, e.g. Oliver's project with the "processional route" and Lyndon's project to conclude the procession with a dinner, were key. Our designs directly reflect our ambition of making these student projects "real"."*

On one side overlooking the sea and setting sun, the final location was perfect for the completion of the workshops. The procession brought the whole village out to watch whilst the enormous canopy, with strips coloured of fabric flying in the breeze, was squeezed through the streets. This was very definitely a public affair and one that mobilized the whole town to join both, the procession and the food celebrated after. The event had finally turned the village into a public living room and in doing so, animated its re-imagining.

## Conclusion

During the last summer workshop we have involved a large number of different stakeholders in discussions, events and making. This reflects our working methodology: residents of all ages, local government representatives, refugees, agriculturists, architects, artists, film-makers, graphic designers, musicians and students have all been involved and acted both as "clients", as well as collaborators and partners.

On an educational level, this also represents our educational methodology: all those people involved have been co-creators of the project, at the same time being co-educators, and contributing with individual expertise and knowledge, learning from each other. The belief in life-long learning and the attitude of curiosity

makes all participants equally important for the overall outcome of the project and has made this project so successful, creating true integration and "crossing of cultures".

The developments of the public spaces, which have already started to enrich the everyday life of Belmonte, have been steered through dialogue and conversations in a non-hierarchical way. Opposed to conventional participatory methods and consultation, in Belmonte everyone can contribute with their own specific knowledge and culture. This knowledge ranges from the memories of an elderly lady living in the old town of Belmonte, to the contributions of Prof. Silvia Mazucca to our discussions about Belmonte's agricultural future, to the foreign expertise of migrant Austin, who is a fabric designer educated in West Africa and who made an invaluable contribution to the making of the table cloth (refer to Square VII).

As outlined in this paper, our participatory working methods can be summarised to:

1. The provision of frameworks, which can be physical or social.
2. The re-imagination of what is already inherent in a place.

The existence of frameworks is particularly important when working with a non-hierarchical methodology to guarantee the success of the project. A framework can be physical, e.g. Orizzontale's prefabricated structures, or social, e.g. the event schedule during the workshop, which was advertised with posters and leaflets throughout the town and neighbouring villages. The different participants were able to add to the overall framework of physical structures, or to the social and cultural events. Within each framework, all participants were free to fit in and contribute.

The frameworks used are closely linked to the events and the re-imagination of what is already inherent in a place. Through the events and how the village started re-using its spaces, we drew out the potentials and enabled them to resurface. Here, we discovered reciprocity between the chosen activities (the social framework) and the qualities of the chosen squares (the existing physical framework) to host the activities, which surfaced appropriate practices of unplanned behaviour in accordance with scale, views and occupancy of the chosen village locations.

As much as we have, through our visits and regular



presence in Belmonte, added an international legacy to the town, we have only added to the inevitable “crossing of cultures”. It seems, we have not created anything new, but only revealed what was already inherent in the town and the area since centuries and since migration began.

In the next academic year, we will develop new strategies for Belmonte that will revive local agriculture and pair this with foreign expertise to create new industry potentials and employment opportunities. We expect this in turn to attract young people back to the area, as well as foreigners to contribute and to “cross cultures”. In the longer term, we expect these strategies to have wider implications and become precedents for other Italian regions in a similar predicament. Our conversations with the vice-mayor Luigi Provenzano and the agriculturist Prof. Silvia Mazucca have already demonstrated that our presence in Belmonte can establish a new vision for Belmonte with a more global and international outlook.

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# Interior Architecture. The evolution of the discipline.

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## ABSTRACT

This paper chronicles the evolution of Interior Architecture through the lens of the Interior Architecture programme at Oxford Brookes University. Interior Architecture as a proper academic field originated from architecture but with a specific scope – to investigate and design the experiential/spatial conditions of buildings. This led it to be influenced significantly by other disciplines in regard to methodology, pedagogy, and even the subject matter of the programme. Whereas naturally it shares most of its critical framework with architecture and interior design, and draws upon similar theoretical contributions and practices, Interior Architecture incorporates findings and methodologies from other disciplines such as behavioural psychology, social studies, and research on perception. It has now consolidated into an independent academic field, able to offer significant insights on design strategies for people in the built environment, which can be applied meaningfully back into architecture studies.

Specifically, Interior Architecture at Oxford Brookes has placed the experience of space as the subject matter in the built environment through innovative design briefs, and academic publication. The design work and research produced by its students and staff is turning into a compressive methodology of design. This incorporates the idea that programmes of occupation are *a-priori* design strategies, conducted with an appreciation of variable spatial conditions and perceptive atmospheric qualities.

**KEYWORDS** Interior Architecture, Experiential Research, Benchmark Standards, and Professional Practice

*"What we have been accustomed to thinking is form in architecture may be partly content, and what we have assumed was content may sometimes suffice for form."*<sup>1</sup>

Introduced in 2002, the BA Hons degree in Interior Architecture at Oxford Brookes University was part of a concerted effort by the School of Architecture to expand the knowledge and the reputation of its programmes. The decision to focus the course on Interior Architecture instead of Interior Design was taken to widen the spectrum of design skills from what was offered elsewhere in professionally based interior

design courses. It implied a more radical alteration of the structure of buildings if required, to provide the ability to re-define the physical and psychological extent of spatial fields. The course offers a substantial autonomy from architecture, as Interior Architecture graduates often operate independently, and are beginning to take leading roles for the definition of clients' briefs when working in a mixed-competence design team.<sup>2</sup>

The course is based on the experience of two distinguished Oxford Brookes academics: the late

Tom Porter, who ran an interior-based design unit in Architecture Part 2 for many years, and Professor Byron Mikellides, who consistently advocated the importance of psychology in the field of Architecture since the 1980s. Hence, the Oxford Brookes programme focuses on experiential approach in the built environment, with an emphasis on spatial articulation for the design of effective places for use.

Currently the Brookes' Interior Architecture course has an annual intake of 30 students, the majority of which practice after graduation in increasingly expanding multi-disciplinary design offices in architecture, addressing the demand for purpose-driven buildings and interiors, exhibitions display, and customised equipment and furniture. The steady growth of the discipline of Interior Architecture has been paralleled in the UK by a widespread demand for a more meaningful engagement of the design of interiors with people, both in public infrastructures and private settings.

After the first post-war generation of professional designers had established the technical framework for the functional requirements of domestic inhabitation and workplace,<sup>3</sup> the provocative and often ephemeral experiments of post-modern designers widened on one hand the scope and the remit of the discipline,<sup>4</sup> but left behind a trail of confusion and disconnection. Today, the eye-catching designs of architects and interior designers have raised questions about the 'real' social consequences of design, which in turn have spurred a broad academic discussion.

Examples of this critical shift abound and include, for example, discussion of the rigidity of modern architecture [such as Juhani Pallasmaa 1996 *The Eyes of the Skin: Architecture and the Senses*], gender issues (Beatriz Colomina 1992 *Sexuality and Space*), social inequalities [Nabeel Hamdi 2004 *Small Change: about the Art of Practice and the Limits of Planning in Cities*], as well as broader comparative discussions that include other art forms [Giordana Bruno 2007 *Atlas of Emotion: Journeys in Art, Architecture and Film*], to name just a few significant studies. Even though most of these publications are based within the field of architecture (and have often been written by architects), they constitute a critical mass of thinking that in conjunction with research in social studies, anthropology and perception, has greatly contributed to the development of a foundation for Interior

Architecture studies.

When the Interior Forum Scotland held an international conference in February 2007 in Glasgow entitled *Thinking Inside the Box*,<sup>5</sup> the intellectual terrain was fertile for an enthusiastic participation of over 80 interior academics and professionals. It aided the establishment of a new generation of interior educators in the United Kingdom, modelled on the framework developed by IDEA (Interior Design and Interior Architecture Educators Association from Australia and New Zealand, founded in 1996) of collaboration between innovative theory and sustainable practice. Oxford Brookes Interior Architecture participated with *Thinking through Drawings*, a paper by Ro Spankie that addressed the limitations of “the conventions to which architectural drawings conform to make it possible to see certain things more clearly by suppressing others – however, the very qualities that define the identity of the interior seem to fall into these suppressed categories, by the nature of being unquantifiable, immaterial, and fluid.”<sup>6</sup> These fundamental considerations, there illustrated by experimental drawings by Oxford Brookes students to represent subjective experience within the constraints of orthographic projections, are still one of the main strengths of our programme to expand the range of interior’s visualisations.

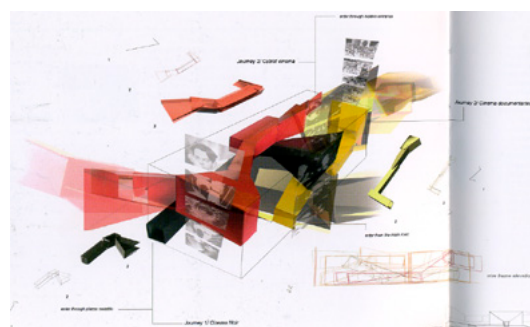


Figure 1. Sarah Kahn (year 3 student Brookes' Interior Architecture 2006) / Three genre/screen cinema; rehabilitation proposal for the former slaughterhouse in Rome. The drawing shows the movie projections in motion in relation to the interior spaces.

From that meeting in Glasgow, IE was born (Interior Educators – the reference for teaching excellence in the field of Interior Design and Interior Architecture in UK<sup>7</sup>), and IE annual meetings became a regular occasion to compare teaching and research among the 40+ members. IE also organises an annual

Graduation show at Freerange presenting over 500 interior graduating students in a single venue, and an international conference every two years, with an academic journal scheduled soon.

### The legitimacy of Interior Architecture

One of the recurring themes of the Glasgow conference was the desire to establish legitimacy and validity of the newly emerging academic field, after its 'declaration of independence' from the perceived domination of architecture. Graeme Brooker (then at Manchester Metropolitan University and today Head of the Interior Design Programme at the Royal College of Art and chair of IE Interior Educators) and Sally Stone wrote in the paper entitled *From Organisation to Decoration* that: *"Interior Architecture [...] is a growing intellectual discipline. As the subject has become more accessible and high visible, so it has become more respectable – to the extent that it is now considered as a subject in its own right rather than an adjunct to architecture or an extension of decoration, with more than 100 interior design and interior architecture courses listed on the UCAS website in Britain."*<sup>8</sup> For Brooker and Stone, interiors were frequently the forgotten element within a larger theoretical discussion in architecture, as if space was a leftover produced merely as a consequence of building an exterior. More worryingly, they saw that interior architecture was still a superficial practice that lacked a distinct set of design theories or principles.

Similar concern was expressed by Lois Weinthal. Although technically she was writing about interior design, her arguments are also valid for interior architecture: *"The discipline of interior design has separated itself from architecture, but it still remains secondary. It has yet to pick up the pieces that define a discipline that is not insular, one that places itself in the same scope of criticism that references history, representation, fabrication, theory and interdisciplinary."*<sup>9</sup> She proposed that in the search for a theory of interior, it was important to keep one foot grounded in conventions and tectonics required to construct the interior space, while having the other foot ground in the phenomenal. These two camps (the physical and the phenomenological) for Weinthal stemmed from the work of Christian Norberg-Schultz – who had argued that spaces that reveal more than their physical attributes do contain a character

(significant presence), and are thus defined as having atmosphere and essence (*genius loci*)."<sup>10</sup>

Addressing specifically the issue of interior design competence, Suzie Attiwill, from RMIT Interior Design and chair of IDEA at the time, in a paper entitled *What's in a Canon?* argued that "it became apparent that there is a potential of a canon for interior design – to frame a discourse, to provide a site for debate, to value ideas and address them with seriousness; and to do so by evaluating their implications and encouraging lines of potentials so that they can be shared, debated and evaluated by practitioners, academics and students."<sup>11</sup> The concept of an interior design canon would raise questions and debate as distinct from reference to a set of canonical examples, "as a cumulative cultural repository [the canon] is a means for storing a number of different kinds of architectural knowledge, and it is the vehicle for the propagation of this knowledge, [...] by making knowledge available at a public, collective level".<sup>12</sup> Attiwill concluded by proposing that an interior canon should contain at least four elements to respect the variety of the constituent interests:

1. Typologies of interiors – significant architectural interiors that challenged and changed the nature of that practice (critical revision of architectural history).
2. Phenomenal and emotive aspects of interior design (experiential approach).
3. Subjective experience – the manipulating of spatial conditions that have the ability to influence positively people behaviour (psychological conditions).
4. Reconceptualisation of interior in relation to the issues of horizontality and urban/landscape (space as perceived while in motion) – as opposed to the verticality of architectural enclosures (static/intellectual perception of space).

In the BA Interior Architecture course at Oxford Brookes University we have adopted and developed principals similar to those proposed by Attiwill. This line of research has allowed us to investigate effectively the impact of spatial design upon occupation and use, and to investigate a methodology of design based on experience. Most of the design briefs involve Live Project scenarios, to provide realistic contexts and detailed information about actual use – we have worked with Nurseries, Community Centres,

Cohousing Association, Modern Art Oxford gallery, and Street Food Palermo.

### The influence of artistic practices for Interior Architecture

When the first Interior Architecture class graduated in 2005, the following quotation was selected to accompany the interior students' drawings in the annual year book. It captured well the sense of spatial purpose of the new academic discipline, which explores the complexity of the built environment:

*"There is the outside of the outside form, the inside of the outside form, and then a space in perpetual tensions. Then there is the outside of the inside form and, finally, the inside of the inside form. [...] Outside and inside are both coincidental and discontinuous. Fit and misfit."*

Eric Owen Moss, Gnostic Architecture<sup>13</sup>

Fittingly, Moss was not describing the space inside a building, like that of the deconstructed architecture which he was building in Culver City in Los Angeles, but referred instead to a small sculpture by Henry Moore, *Helmet Head* (1960). Henry Moore's sculptures are particularly important for understanding Interior Architecture, because they show simultaneously negative and positive forms (interlocking forms), challenging the limitations of simple figuration and objective representation by applying a multi-focal approach to spatial occupation. As pointed out by Sigfried Giedion in *Space, Time and Architecture*: *"Space in modern physics is conceived of as relative to a moving point of reference, not as the absolute static entity of the baroque system of Newton. And in modern art, for the first time since the Renaissance, a new conception of space leads to a self-conscious enlargement of our perceptions. Cubism views objects relatively, from several points of view [...], introducing the principle of simultaneity."*<sup>14</sup>

Contemporary with Moore's search for sculptural 'essence', the Italian critic Bruno Zevi (in *Architecture as Space*) was redefining the essence of architecture by taking into account for the experience of space the point of view of a moving observer: *"Architecture does not consist in the sum of the width, length and height of the structural elements which enclose space, but in the void itself, the enclosed space in which man lives and moves. [...] Even though a drawn plan may have abstract beauty on paper, or the four facades may seem well-balanced and the total volume well-proportioned, the*

*building itself might turn out to be poor architecture."*<sup>15</sup>

For Zevi internal space, space that cannot be represented, and which can be grasped and felt only through direct observation, was the main protagonist of architecture. Having established the role of the mind in the perception of space, we have looked at artistic practices to provide a source of inspiration for representing the relation between reality, perception, and meaningful manipulation.

Many modern British artists (from Henry Moore in sculpture, Francis Bacon in painting, Rachel Whiteread in casts, and David Hockney in photocollages) have used a deliberate inclusion of residual elements of reality, however distorted or fragmentary, to acknowledge the emotive dimension of perception. Considering their work in the context of Interior Architecture provided a method for approaching spatial design, and a mode of representation of experience that resolved some of the limitations of traditional architectural drawings. Hockney's experiments, for example, with photo collages of multiple images taken in the same interior portray the visual perception/reception of images in the mind more accurately than single point perspective: *"Photography is alright if you don't mind looking at the world from the point of view of a paralyzed Cyclops for a split second. But that's not what it's like to live in the world, or to convey the experience of living in the world. [...] The joiners [Hockney's own term for his multiple Polaroid photo-collages] are much closer to the way that we actually look at things, closer to the truth of experience"*.<sup>16</sup>

Notwithstanding obvious differences between a work of art and a building, any building as perceived appears as a series of disjointed configurations (even if our mind is able to reconnect them), and form as a preconceived attribute does not account for the totality of its effects in architecture. Spatial sequence and articulation in Interior Architecture is therefore more important than shape to design a building according to its functional purpose, people involvement, and experiential sensations – the main conditions that have become the necessary elements to fulfil the potential of any given building's program.

When spatial sequencing is designed effectively, a visual 'inversion' occurs between solids and voids: the articulation of the openings and connective spaces becomes more important than the solid walls. Eric



Owen Moss proposes that this inversion extends to incorporate all the elements and actions contained within a space. He suggested that a sort of spatial experiential glue connects solids and voids, *“a cerebral underground that designates a crisscross of emotions and ideas, piled over many years. The interconnections are so fine, so precarious, and so can’t-be-numberedish, that it is not possible to break in. Start to disable the glue and it’s gone: it’s psychologically inviolable”*.<sup>17</sup>

Any meaningful discussion on Interior Architecture should acknowledge the gluey bundle made of meanings, habits, and design elements, from which it is difficult to dissect any specific part without forcibly excluding other interconnected components. The process of inhabitation of dwellings/workplaces over time produce a progressive occupation of available space, creating unique crystallisations in perpetual tension of possessions, adjustments, rituals and memories – a sort of significant membrane set between the internal articulation of the spaces and the skeleton of the building.

It follows that the main objective of Interior Architecture is to encourage students and practitioners to understand this complex web of references, and then to encourage them to design meaningful and inspirational space at all scales (from buildings to small details) for the wellbeing and participation of the end-users. Studio design briefs include the transformation of existing buildings for better uses, or smaller scale semi-temporary pavilions and re-fittings, experimenting with unconventional spatial configurations and innovative materials. The body of work produced has helped to consolidate the scope of Interior Architecture as a discipline and to establish its relevance within the wider professional world. Interior Architecture today operates alongside and overlaps with the more established fields of Architecture, Interior Design and Product Design, and the visual arts in general. But it in fact distinguishes itself in its unique blend of professional competences over dimensions and human scale, ergonomic requirements, manufacture processes, psychological processes, and visual imagery. In doing this, Interior Architecture has effectively shifted the focus from the ‘object’ of the architecture – *building* –, to the ‘subject’ – *occupant* –, and thus placed the emphasis on people’s movement, visual interferences, and modes of occupation that influence the experience of the built environments,

making students and practitioners more aware of their social responsibility.

### Architecture without buildings

One of the consequences of the above considerations, specifically the importance of patterns of use in Interior Architecture, is that architecture can still operate without a rigid compliance to the content of buildings. This was implied in a thought-provoking article *Architecture Without Buildings* by Nathan Silver for a collection of contributions by critics and architects edited by Charles Jencks and George Baird.<sup>18</sup> The editors had explicitly encouraged radical propositions with the aim to demonstrate a lack of social consensus about buildings’ meanings in the aftermath of 1968, a crisis point for the purists of the modern movement. At the time Nathan Silver had just published his book *Lost New York*,<sup>19</sup> in which he had advocated the importance of people’s emotional connection to meaningful architecture.

Elaborating on this argument, Silver suggested that: “architecture is fundamentally a people-system, not a thing-system; and that (incidentally) architecture without architects is impossible, [...] but architecture without building may be quite possible, since use-situations can exist without buildings for them.”<sup>20</sup> For Silver buildings are the usual formal agents which transmit architectural values but they are not necessarily the form of architecture: *“that is, maybe the form is predominately, or partly, invisible. A band shell, a viewing platform, a scenic highway, a car aren’t simply forms but formal agents; they provide for larger, integral forms in our ‘ethnic domain’: a concert, a parade, a spectacle, a journey. Things are mere surrogates”*.<sup>21</sup>

In Interior Architecture continuity of perception is more relevant than the formal distinction between inside and outside, and between architecture and furniture. The ramifications of this ‘experiential’ approach to design, where forms are not intended as visual entities (buildings), but as patterns of use (forms of occupation), suggests not the actual disappearance of buildings, as the title of Silver’s essay would imply, but challenges the apparent obsession of architects with them. Silver was aware that his examples were not necessarily ‘buildings’ according to the common use of the word, because they had little to do with codified architecture. Yet he wondered why the same arguments could not be extended to the invisible agency of

organisation and its relationship within a church, a railroad station, and a meeting hall.

Instead of a design process that starts with raw materials and ends with a form that enables functions, Silver argued that patterns of use already exist prior to any design process, and should constitute the main focus of the design development; the building should become an instrument to enhance the future inhabitation process.

This point has now been installed at the core of the field of Interior Architecture.

### Phenomenology

In *Eye and Mind* Maurice Merleau-Ponty proposed that bodies extend and affect consciousness and so established perceptions as a formative element of the consciousness that defines the integrity of the world to individuals. Applied to design, phenomenological analysis suggests that any rational objective understanding of buildings is an 'illusion' (even if we possess a complete knowledge of the design blueprint), and that subjective experience is the key through which people truly experience lived space. The modernist architects' conviction that architectural space could exist 'per se', as if it was a separated entity indeterminable by direct perception (an object equal to all), was effectively challenged by Merleau-Ponty who eloquently wrote: "I do not see [space] according to its exterior envelope; I live in it from the inside; I am immersed in it. After all, the world is all around me, not in front of me".<sup>22</sup>

These are concepts that architects and designers need to consider. Design should not attempt a superficial rationalisation of space, but rather make space accessible to people in the implementation of their activities. Interiors should be formed by extending spatial qualities around people's actions (and not vice-versa), reconciling the disconnection between people and their environments. Operating from the opposite end of conventional interior design practices, Interior Architecture aims to define detailed programmes of use before buildings are formed, and strategies of implementation so as to enable the desired patterns of use to be achieved. This means the acceptance that a building can be physically present to establish the framework of space, and yet disappear at the same time, fading into the background.

Silver neatly explained this with a challenge of

traditional architectural tenets:

*"Man is the measure, literally [not the idealized geometrical Vitruvian man, but a perceptive subjective emotive man]. The design material isn't brick or concrete (or tracing paper), but human adaptability. The 'subject matter' of architecture is the life situation [...] where the environment issues formal instructions only in terms of use-situations or potential use-situations. The best architecture according to this new proposition would be that which defines, with a chance of high sensibility, normality without uniformity (because the human normal state is not uniform), and formality without deformity (meaning inappropriate exaggeration)."*<sup>23</sup>

Bruno Zevi declared his enthusiastic approval of Silver's essay in the critical notes published in his 'The Modern Language of Architecture': *"The slogan 'architecture without buildings' should be adopted in the practice of architecture, and even more in the schools of architecture. It does not matter that this 'reduction ad absurdum' is not telling all the truth about architecture. It stimulates the proposition of innovative patterns for human actions without an a priori judgment about their formal enveloping. [...] If we are able to understand the multiplicity of the patterns of occupation, and how these can be accommodated in architectural space, the building will follow naturally, and it will be more efficient and expressive when it has not been designed prematurely to appear sophisticated."*<sup>24</sup>

### Variable Spatial Conditions

One of the difficulties in adopting a spatial/social approach to architecture is that space is not a passive result of the void's cavity inside a building, but actually a human faculty: *"As well as being a physical property of dimension or extent, space is also a property of the mind, part of the apparatus through which we perceive the world. It is thus simultaneously a thing within the world, that architects can manipulate, and a mental construct through which the mind knows the world, and thus outside the realm of architectural practice (although it may affect the way in which the results of architecture are perceived)."*<sup>25</sup> Although Forty recognised that architects, by virtue of traditional involvement with space, often claim authority in its practice, they are as responsible as any for the schism of mental and physical space, a schism which they have reinforced and perpetuated.

To account for the simultaneous presence

of objective and subjective elements, Interior Architecture has established that a meaningful design for individuals should remain flexible and variable, instead of stable and objective. For this purpose we have developed at Brookes the following diagram of variable spatial qualities:

**CREATIVE SPACE – Interior Architecture Design Studio 2014 / 2015**

DESIGN PARAMETERS			Chair Brief	Office (Space) Brief
Objective	Dimension	Measurements Materials Technology	Chair as an Object	Office (space) as a Void
	Function	Context & Purpose Ergonomics Levels of occupation	Chair as a Tool	Office (space) as a Function(s)
	Spatial Qualities	Spatial field Environmental Movement / Views	Chair defined as an Interconnected Presence	Office defined as a Continuous Space
Subjective	Personal Response	Experience Actual Use Body in Motion	Chair perceived as Physical Entity	Office experienced as Physical Place
	Awareness	Neural senses + Positional indicators Individual activities Intentional / Spontaneous behavior	Chair evaluated as Meaningful Mental Process	Office becomes a Significant Event
	Significance	Response to sensorial-positional stimuli Cultural paradigm Critical Judgment		

Figure 2. Spatial Attributes Matrix / Brookes' Interior Architecture studio

### 'Value' as the exchange currency between different competences

In order to navigate in this complex phenomenological and philosophical reality, Interior Architecture at Brookes has recently introduced the notion of value as an 'exchange currency' between objective and subjective realms; value in a design process is formed by the reciprocal influence of people participating in the brief, and it is made available across the different fields of competence in the design resolution.

In terms of the built environment 'value' is a relative attribute, unstable and constantly reasserting, and can be susceptible to deliberate actions (design), but can be also impervious to external stimulation as it is ultimately a personal judgement. Value is at once objective, subjective, and perceived (real and apparent). And value can be quantifiable using quantitative and qualitative scales of judgement.

Typically, there is the client's definition of value in terms of requirements, which can be either realistic, or misdirected. Design strategies effectively attempt both functional and aesthetic creations of value, and design processes and manufacturing of design elements and furniture requires a considered manipulation of economic, ergonomic, and experiential parameters aimed at maximising value. People's experience is a subjective measure of value, as the use of buildings and spaces by individuals is ultimately based on what is perceived as added value.

In this sense a building programme can be defined

as a deliberate augmentative summation of value across competences, or, an anticipation of possible valuable outcomes. Importantly, the point is not to quantify value rigidly, but to utilise value(s) (either explicit, implicit, or even alleged) for an assessment of design propositions and their effect on people. In order to understand this concept, we have launched in 2017 a multi-disciplinary research project on 'Designing the Experience, the Experience of Design'<sup>26</sup> to include an analysis of the Maggie's Cancer Centres.

The Maggie's Centres offer a remarkable consistency both in terms of architectural excellence and spatial qualities, and are a successful social infrastructure in support of cancer treatment. While all Maggie's Centres share an identical programme – the 'architectural brief' inspired by Maggie Keswick Jencks<sup>27</sup> –, the 23 built centres appear rather dissimilar. Yet, notwithstanding structural and appearances diversity, their 'effect' on people (the experience of the users and staff) is consistently uniform, and revolves around familiar spatial configurations and specific conditions of use, such as the central 'kitchen table'. Each Maggie's Centre sits in the landscape as a series of interrelated spaces without rigidly defined enclosures, and possesses a tight correspondence between external forms and internal spatial fields, even though the buildings themselves may appear disjointed, transparent, or rather abstract. These characteristics demonstrate the Interior Architecture assumption that a spatial programme of occupation (where experiential qualities are defined before the shape of the building is finalised) can be flexible in application.

In the various Maggie's centres the architects were not expected to re-formulate the programme but encouraged to interpret it, ensuring that the buildings were able to operate in often hostile contexts (because of their location inside overly functional hospital sites). The architects had to adapt and modify repeatedly their design in constant conversation with Maggie's experts to ensure that the buildings delivered in those difficult conditions. Once opened, it is in their daily use, by people from all walks of life, that the Maggie's centres are most successful because they work effectively as transitory safe places, visually open and continuously connected with their surroundings, and yet able to retain privacy and dignity.

### Interior Architecture specific competences

Conscious that perceptions respond to relational position, and that they are not defined in absolute/isolate terms, Interior Architecture uses a specific terminology (and representation techniques) to define the main areas of spatial exchange:

#### 1. *Spatial Fields*

Both objective (voids) and subjective (identity), spatial fields are defined by thresholds and condition of occupation, and determine the relation of people with their immediate surroundings. In objective terms, a 'spatial field' is the sum of all voids and spaces within a building. However the edges of thresholds are not easy to define, as the extents of spatial fields are often questionable. But they can still be represented onto 'orthographic' technical drawings – what in Interior Architecture we call 'trajectory' plans/sections (through time, no space) – even if a spatial field in reality appears 'distorted' by subjective movement and experience.



Figure 3. Monica Yee Yong See, Year 2 student (2016): Experiential Section showing a route of a user in the building.

Influence and inspiration for an understanding of spatial fields came from landscape design, and in particular the Japanese Promenade Garden (Kaiyushiki-teien 'stroll gardens'). There, following a path means that a visitor is presented with a series of scenes, enhanced with the techniques of 'borrowed scenery', where outside elements are incorporated to create the illusion that the garden is larger, and 'hide-and-reveal' to concentrate the views to the most evocative elements.<sup>28</sup>

Urban Studies (perceptual approach) are also relevant – Kevin Lynch for example in *The Image of the City*<sup>29</sup> noted that people in an urban context understand their environment with a degree of predictable consistency, forming mental maps. In Lynch's theory the city is treated as a composition, consisting of 'rules' and elements whose arrangement can produce stronger or weaker effects on the observer. Ultimately, the quality of a spatial field rests on the power of 'contrasts' – which asserts the ability of non-homogeneous elements to form a meaningful sequence.

#### 2. *Furniture*

(Furni(ture)+(Archi)texture) is the intermediary scale of inhabitation between architecture and furniture, to include individual activities and subject to variable conditions. It defines the relation between bodies and objects in space. Furniture performs as a spatial membrane that softens and articulates the transition between the skeletal architecture and the versatile living that happens within it. When carefully orchestrated, furniture can articulate and (re) define available space to facilitate positive responses, inserting a complex psychological dimension into architecture by animating structures that normally perform only secondary roles.

Important considerations for the definition of furniture came from the critical catalogue of "Living in Motion: design and architecture for flexible dwelling" exhibition held at Vitra Design Museum in 2002,<sup>30</sup> where a series of disparate innovations from different cultural and geographical contexts applied to a range of inhabitable spaces, testifying to the human capacity to shape and modify furniture and spaces to create inhabitable living conditions (hammocks, nomadic tents, caravans etc.). They all offered shelter and a degree of intimacy, without necessarily being 'buildings', or designed in the traditional sense as independent objects.

Furnitures are notoriously difficult to design and communicate, as they extend by definition across different spaces and functions in the same environment. We use section models similarly to anatomic drawings to represent these internal 'organs'.

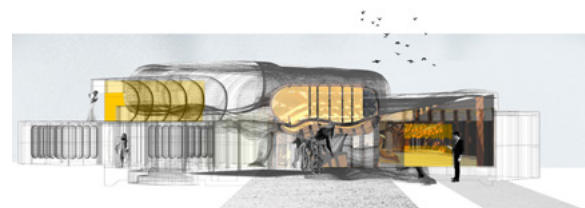


Figure 4. Marie De Poncins, Year 2 student (2016): Latex Furniture in a community pavilion. The orange areas indicate the latex furniture which provides a tactile thread between the various functions.

#### 3. *Atmosphere*

With this term we define the relation between the body and its own internal psychological functioning. Immaterial qualities determine the experience by the application of design within variable natural



conditions, and people's interaction.

Peter Zumthor explained: *"Architecture possesses quality when it affects people emotionally. We perceive atmosphere through our emotional sensibility – a form of perception that works incredibly quickly. [...] We are capable of immediate appreciation, which is very different from linear thought."*<sup>31</sup>

Juhani Pallasmaa has produced important considerations to define the nature of atmospheres: *"The character of a space or place is not merely a visual quality, as it usually assumed. The judgement of environmental character is a complex fusion of countless factors that are synthetically grasped as an overall atmosphere, feeling, mood, or ambience."*<sup>32</sup> For Pallasmaa this experience is multisensory and involves judgements beyond the five Aristotelian senses, such as the senses of orientation, balance, motion, continuity, and scale. This complex assessment involves perception, memory, and imagination. In addition there are interpersonal atmospheres – cultural, social, family, workplace etc. Olafur Eliasson noted that atmosphere is by definition unstable, and that we should not aim to force it in a space, but rather evoke it using a sophisticated design strategy. *"Like the weather, atmospheres change all the time and that's what makes the concept so important. An atmosphere cannot be an autonomous state; it cannot be in standstill, frozen. [...] In a public place, is the coming together of numerous trajectories, the coming together of materials, of intentions, the building; it is hovering, a resonance."*<sup>33</sup>

One of the techniques of representation developed in Interior Architecture to illustrate the instability of design atmospheres involves the 'semi-rendering' of internal views, living a strata of wireframe visible at the edge of computer renderings, similar to the visual background trace of short memory experience of space.

## Conclusions

Because of its ability to design meaningful spatial sequences, Interior Architecture can provide an important contribution to shape social interaction, as explained by Peter Blundell Jones: *"Accepting that buildings have some kind of shaping influence on life is not to say that architecture determines behavior, or that 'form follows function' [...]. Most buildings apart from prisons are not physically coercive, nor do they force people to behave in a particular way, yet all buildings limit the available possibilities and can by their organisation suggest or persuade towards particular courses of action. The relationship between space and activity is evidently neither a compelling certainty nor open or random, but complex and variable."*<sup>34</sup> For Blundell Jones, what makes it so hard to pin down is that it is a two-way process involving a 'reading' as well as a 'doing', determined by the mutual relation between users and building. In other words, the arrangement of the building has somehow to mesh with a set of habits, beliefs, and expectations held by the person who experienced and use it, a matter of what Pierre Bourdieu have called the 'habitus'.<sup>35</sup>

According to Blundell Jones' suggestions, buildings provide prompts for action and frameworks to define relationships with fellow human beings in forming societies and communities, whilst variations in buildings and social practices expose differences in understanding and in conceptions of the world.

This is what Leon Van Schaik called the concept of 'spatial intelligence' as something which each person carries with them and is produced by their history in space: *"What we in the spatial profession hold in custody for everyone is the ability to put them back in touch with their own spatial intelligence"*.<sup>36</sup>

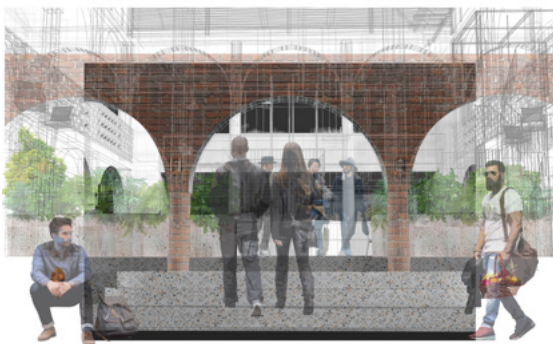


Figure 5. Alyssa Kirton, Year 3, Semi-rendered view.



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# Collaborations and Contributions. Interdisciplinary engagement through architecture education.

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## ABSTRACT

Architecture education provides opportunities for collaborations with people in 'real world' contexts, but expanding the significance, and our understanding of, architecture education could also happen through collaborating with other fields of scholarship such as sociology.<sup>1</sup> A consideration of interdisciplinary connections between sociology and architecture education is discussed in relation to 'Thinking While Doing' (TWD): a design-build project that links several North American architecture education programs with scholars in the social sciences and humanities. This extended abstract of a longer paper outlines how some aspects of sociological theorising can be related to design-build pedagogy and so is relevant to those theorised discussion that themselves are ultimately concerned with 'real world' engagements.

**KEYWORDS** actor-network theory, agency and structure, architecture education, design-build education, sociology.

Architecture education's connection to 'real world' contexts is increasing, in part through the development and popularity of many courses and programs that explore educational design-build, where students work with 'real' clients, as well as with other professionals (e.g. engineers, city planners) who will help in the physical realisation of the final structure.<sup>2</sup> This extended abstract (a summary of a longer paper) argues that, while such 'real world' associations are important, it is also relevant to have architecture education link to other parts of the academy, including the humanities and social sciences. These links provide opportunities for students to consider ways that architecture connects to theorised interpretations of society and culture. Further, by using architecture education as a

lens for developing scholarly enquiry, other disciplines will benefit from a deeper understanding of the complexities inherent in the creation of the material world.

The paper focuses in particular on the relationship between sociology and design-build education, through drawing on data collected through the *Thinking While Doing* (TWD) research project. The TWD project involves several different design-build courses in North America, as they develop four relatively small-scale gridshell<sup>3</sup> structures. Additionally, representatives of the different programs come together to design and build a large gridshell in a Canadian National Park.

As well as the persons involved in actually designing and building (i.e. the 'Design-Build Group'), the

TWD project includes individuals who are working on developing a large-scale database of design-build projects (i.e. the 'Design Build Exchange'). Also, TWD has the InSight Group (IG), whose members include a historian, a philosopher, an architect-researcher, an anthropologist, and a sociologist. It is the task of the IG to collect data such as audio and/or video recordings of meetings, reviews, and other everyday practices of education design-build. Also collected are items such as drawings, photographs, student reflections, etc. Together such materials enable these social scientists and humanities scholars to undertake theorised reflection upon the processes, practices, ethics, and historical conditions of contemporary design-build education.

As the IG's sociologist, my research focuses on how architecture education connects to larger questions concerning the nature of society and social change. In particular, sociologists have been interested in how society is shaped through relationships between individual action (agency) and long-standing social conditions (structure).<sup>4</sup> Historically, debates concerning agency and/or structure have often occurred through somewhat abstract categories such as rules, routines, and resources<sup>5</sup> rather than being directly connected to the material qualities of the built environment. Through drawing on data collected at an architectural education review (as part of a TWD gridshell project), this paper shows that design-build education offers a relevant lens through which traditional sociology's concerns with agency and structure can be explored (given that any architectural project requires the integration of individual imagination with long-standing policies and practices as these connect to, for example, urban development, construction, and/or the needs of clients).

Further, however, architectural education in general, and design-build education in particular are highly significant to more recent developments in sociological theorising. That is, while traditional sociology often explored relationships between agency and structure without mentioning the diverse products and buildings with which and through which people live, currently, the material world has become of direct concern to the world of social theory (e.g. Actor-Network Theory, Posthumanism, and New Materialisms).<sup>6</sup> For instance, Actor-Network Theory, a particular perspective that has recently emerged

in sociology, is used by its proponents to describe how material phenomena (from petri dishes<sup>7</sup> to transportation networks<sup>8</sup>) underpins and enables our contemporary world.

Again, through using data acquired through one of TWD's design-build reviews, this paper considers how the approach of Actor-Network Theory can be usefully associated with architectural education. Through drawing on empirical evidence derived from specific contexts of architectural education, the theorised approach of ANT is given greater specificity. While it is no surprise to those who educate architects that the material and social worlds are co-constructed, the detailed evidence of this, as it is presented through the settings of educational design-build, enable newer sociological approaches (such as ANT) to more fully recognise the interconnected relationships that inform both the material and social worlds.

Using educational design-build to underpin contemporary social theory may not seem to have a direct benefit to architectural education or to the 'real world'. However, sociology engages consistently with socio-political and economic conditions outside the academy, for example, through influencing work and organisational life and informing governmental policy. Therefore, having (design-build) architectural education more consistently associated with sociological theorising will enable its significance, and that of the built environment more generally, to gain greater recognition within the 'real world' contexts of contemporary society.



Figure 1. One of the TWD project's gridshells.



Figure 2. Project review of a TWD gridshell

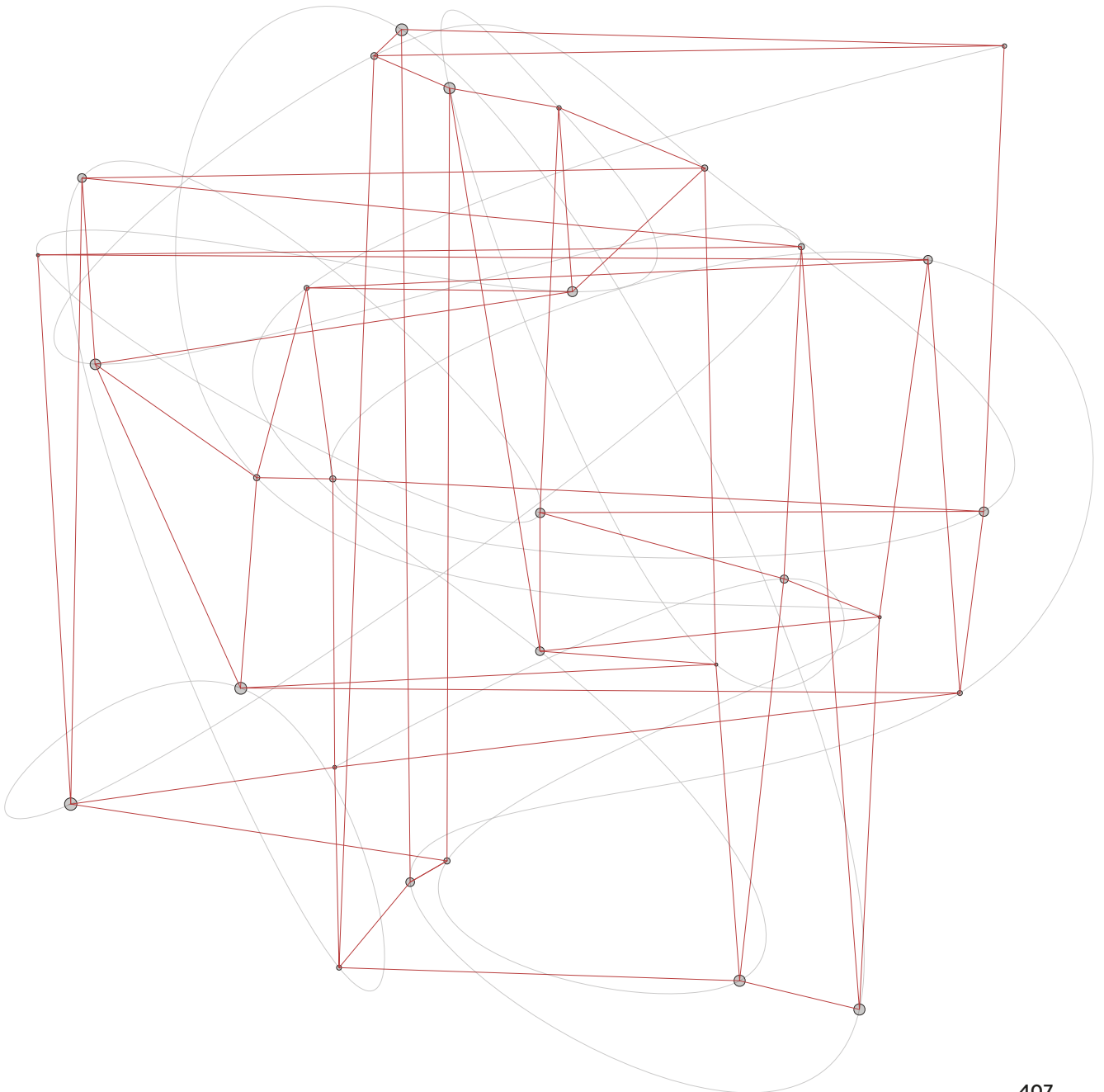


Figure 3. Design-build education and sociology: The study of agency, structure, and networks of human and non-human actors.

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## 2.9 INCLUSION





# Collaborating with disabled artists to ‘do inclusion differently’ in architectural education.

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## ABSTRACT

This paper reports on an Arts Council England (ACE) funded project that brought disabled artists into architectural education, to prototype new ways of working together around the design of built space. Rather than treating disability as a technical problem to be solved through design guidance, this project explored what happens when we start from difference: when disability *and* ability are understood as complex, ambiguous and relational; where engaging with the richness of biodiversity and neuro-divergence can enhance design; and as a means of critically and creatively unravelling ‘what is normal’ about everyday social and spatial practices. We reflect on what worked and what was less successful, and discuss possible future steps for building on disabled artists’ experience and creative talents to ‘do inclusion differently’ in architectural education.

**KEYWORDS** dis/ability, inclusion, creativity, co-production, activism

This work grew out of the awareness that disability continues to sit in a peculiar position within architecture. Whilst there are many critical studies that explore architecture and other identities of difference – such as gender, sexuality and race – disability as a concept, and disabled people as a constituency, continues to be assumed as completely separate from social or cultural politics. Within architectural education and practice, disability remains predominantly framed by design guidance and building regulations on the one hand, and by a ‘common sense’ language of accessibility and inclusive/universal design on the other. Neither of these approaches is wrong. What is extraordinary is that both because of and despite these existing framings, disability

has somehow remained consistently stuck in a non-historical, atheoretical and – most crucially – deeply limited place in building design education and practice. It is invisible in both avant-garde and mainstream architectural theories and discourses, just as it is a persistent absence in critical and cultural theory more generally. It seems that we assume ‘disability’ to be unable to bring any kind of criticality or creativity to the discipline of architecture, or our wider understandings of the world.

Challenging such a common sense positioning of disability is happening on many fronts across research, education and practice. In fact a rich seam of theoretical and critical thought already exists, but seems to have had almost no impact on architectural

and related discourses, a huge gap for the subject. Through the developing field of Disability Studies, disability arts practice and disability activism, for example, there are now many scholars, artists and advocates examining how disability intersects with ‘normal’ social, spatial and material practices.<sup>1</sup> What such work shows is that disability is not an obvious and straightforward category – as mostly a design problem demanding a design solution. Rather, disability and ability are ambiguous and relational; are shaped as much by everyday social and spatial practices as by specific impairments; and are a potentially powerful means to critically and creatively investigate, speculate about, and generate designs, for built space.

The Arts Council England (ACE) funded project outlined here was generated out of this ‘other’ understanding of disability and difference. Entitled “Disabled Artists making Dis/Ordinary Spaces” (DAMD/OS), and running for the first half of 2017, it aimed to prototype new ways of engaging with disability and ability within current architectural education and practice. The key principles were:

1. To start from a recognition that disabled people are *already* creative experts in experiencing and negotiating built space rather than merely passive users.
2. To explore what happens if we begin designing from the rich differences that biodiversity and neuro-divergence bring rather than from unconsidered norms.
3. To investigate ways in which educational processes can be enhanced through a critical and creative engagement with diverse bodies.

The project was based on a partnering model, where disabled artists and educators together co-designed activities within existing courses. By connecting to perspectives, experiences and discourses beyond the ‘usual suspects’ of conventional architectural theory and practice, we wanted to generate alternative kinds of interventions into education that can ‘do inclusion differently.’

The platform for this developing work is called the *Dis/Ordinary Architecture Project*, whose mission is ‘to promote activity that develops and captures models of new practice for the built environment, led by the creativity and experiences of disabled and Deaf artists’. This grew out of a group of disabled artists, based in south-east England, who originally won Arts Council

funding to make creative work about their experiences of the built environment. Whilst this was an important development for the artists, it showed that a more direct engagement with education and practice was vital for such creativity to directly inform architectural practices; and for both groups to learn from each other. Under the original name of *Architecture InsideOut* (AIO) we therefore developed a series of creative events, focused on bringing architects and artists together to create work and debate issues. These activities centred on two one-day charrettes, one in the Turbine Hall at Tate Modern in May 2008 (fig.1), and the other at the Lightbox, Woking in June 2008, as well as a series of supporting workshops of various kinds, and a number of other interventions into architectural and interiors education.<sup>2</sup> Over time, an informal group of about 35 - 40 interested artists, educators, students and professionals has developed, which now forms the support network for current developments, as both participants and critical friends. About 50% of this group is disabled, to make sure that disability and difference remain central to our activities.

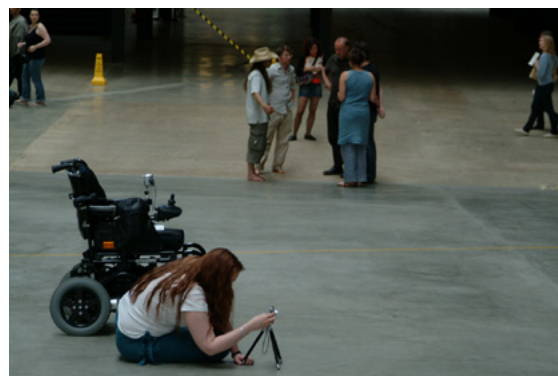


Figure 1. AIO Design Charrette (2008) Tate Modern Turbine Hall, London. Photo: Jos Boys

In the rest of this paper we will first briefly describe the DAMD/OS project’s interventions, aiming to embed inclusion at different levels of architectural and interiors education (Foundation, Undergraduate and Diploma). We will then go on to examine in more depth one case study; the set of activities that were integrated into an already socially oriented design project in one of the participating architectural school’s MArch 4th year units. Finally, we will outline what we have learnt from these activities, and our plans for next steps.

The recent Arts Council funding (from January to June 2017) was to build the capacity of disabled

artists to engage effectively with built environment education and practice, and to promote the importance of disabled creativity in informing building design processes. Three architectural educators from across the UK participated in this first stage prototyping by co-partnering with specific disabled artists to run short projects within their existing courses: at University of Westminster, London Metropolitan University and the Manchester School of Architecture. At Westminster University, disabled artist Liz Crow ran a one-day workshop with educator Julia Dwyer.

For the educator, working in this way meant that “the workshop was grounded in a sensitive understanding of the experience of seeing space differently by necessity rather than choice, whilst also recognising the potentials for a more creative approach to spatial design that this way of seeing might lead students towards.” The Head of School called it “one of the first projects [about dis/ability] that is really interesting” and has committed to further involvement. At the London Metropolitan University (CASS), hearing-impaired artist Joseph Young worked with Foundation Director Chi Roberts on a co-designed five-week option project entitled *SoundMarks*. For Joseph, “planning and preparation was excellent throughout, with Chi proving to be a willing and receptive collaborative partner, working with me to understand a field that was new to her and to integrate that into an already established learning framework, which was a new experience for me.” There are already plans to repeat/extend this activity in Foundation next academic year, and it will be promoted at the University’s annual teaching and learning conference as part of their ‘Diversity in the Curriculum’ agenda.

Through initial and concluding public events (at Tate Modern and the Bartlett School of Architecture UCL) a larger network was involved in supporting the development of these projects; also using them as the focus for discussion, promotion and to generate more ideas and potential activities. This was underpinned by our long-term strategy to challenge common sense mind-sets, to encourage students and educators to engage positively with disability and built space; and to place disabled artists at the centre of inclusion in a sensitive, creative and provocative way. The three prototype collaborations all had very positive feedback from the co-creators, from the students involved and from a wider audience.<sup>3</sup>

Overall, then, the project achieved its aims; offering strong evidence that working with disabled artists to develop creative new ways of engaging with architecture and interiors is both relevant and powerful; and also suggesting many opportunities for expanding artist-educator collaborations.

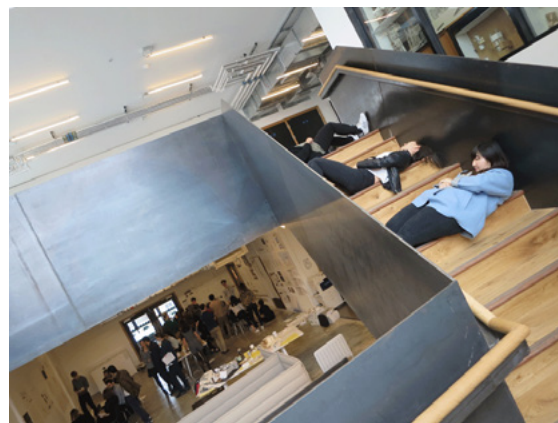


Figure 2. University of Westminster students explore ‘Tilted Horizons’ at the Bartlett School UCL. Photo: Jos Boys

At Manchester School of Architecture the co-designed activity came under a technology module, integrated with 4th year MArch students’ major design project. Entitled *Designing with Dis/Ability* the aim was to gain an understanding of inclusive design beyond Part M and Lifetime Homes, so as to generate innovative design details that could have a positive impact on different abilities. Unlike the other two interventions, which focused on creatively exploring intersections between multiple embodiments and space, this project wanted to investigate how students soon to enter professional practice could engage both creatively and practically with diverse bodies. It asked what they needed to know at the detailed design stage, what resources (including but also beyond conventional design guidance) could inform them in this, and how to design in interesting and productive ways by starting from the complex effects of differing corporeal and cognitive abilities on architecture. This was perhaps the most difficult of the three prototypes because it was most directly about the ‘nitty gritty’ of designing for accessibility.

The project was organised around two workshops, led by artist Zoe Partington. The first of these introduced students to the hugely diverse variety of sensory, physical and cognitive impairments; and

offered a series of introductory explorations such as engaging with objects through every sense and mapping everyday obstacles in built space. Students were then asked to search out design guidance about different impairments as well as other informative references such as about Deaf Gain, DeafSpace, autism-led definitions of neuro-divergence and other narratives by disabled people, rather than about them. From this, students developed specific and detailed design interventions in relation to local housing forms. One student, for example, explored using the terrace as a means of creating a reciprocal 'good neighbour' scheme. As part of this she detailed a room to be responsive to a person suffering from anxiety or depression, through a creative and elegant use of light and acoustic privacy (fig. 3). At the second workshop students shared their different detailed design interventions. This, in turn, enabled critical and creative debate about similarities, differences and even contradictions around focusing on specific impairments, with the intention of exploring how architects could increasingly engage holistically with many differing abilities through design. The final stage was for students to amend and/or extend their detailed design work, based on this more complete consideration of disability and impairment. Of all the three prototyping projects, the MSA activity was the one implemented at shortest notice; and was therefore probably most adversely affected by being introduced towards the end of an already existing design project. After the project finished, reflections from students indicated a range of levels of understanding and engagement, with some still struggling to see beyond disability as a set of defined and unproblematic medical categories or as merely a technical problem to be solved. Others, however, said that their assumptions about disability had been changed by the project. As one wrote:

*"Current definitions and legislation surrounding including different abilities only scratches the surface of the design potential for inclusive living and this needs to change. We should no longer see disability as a tick box exercise at the end of a project to pass regulation, but rather a core understanding of good design. It should also be included early in the design process, as with all architectural technology, to ensure a coherent and beautiful piece of architecture that is also practical in the real world for real people, regardless of ability."*

*Technology in this instance creates not only a solid structural foundation, but a social one as well."*

The co-partners for this project are now intending to work together to create a more explicit programme, with support materials created in advance. This could include an introductory disability and creativity awareness session; resources about, and links to, important disabled perspectives and experiences of built space; links to contemporary good examples of inclusive design; and a structured workshop on the complexities of designing for differing abilities.

More generally, there are several lessons from the DAMD/OS project as a whole. First, working this way has clearly created considerable enthusiasm and energy, amongst artists, educators, students and other built environment professionals. There has been a shared sense of innovative possibilities and of the potential to produce resonant impacts. This was evidenced both by the productive and enjoyable nature of the activities themselves, and by the ease with which future collaborations (and ideas for additional activities) are being generated by our support network. There is already a 'snowballing' impact across architecture, interiors and built environment education and practice in the UK. The introductory invited workshop in January 2017 immediately generated two more collaborations, one of which has already taken place. Disabled artist Damian Toal worked with tutors from both the Bartlett and the Architectural Association (AA) – two of the most prestigious architecture schools in the UK and internationally – on a one-day mapping workshop as part of the project. The AA also hosted an evening event, called 'The New Standard' where Deaf artist Aaron Williamson was one of the invited speakers.<sup>4</sup>

The other collaboration will take place at Newcastle University (as part of undergraduate history and theory courses) in the next academic year. In addition, the first year leader for BA (Hons) Interior Architecture at the University of Brighton has also committed to working with a disabled artist in her course - having been involved herself as a student some years ago in one of the original *Architecture InsideOut* (AIO) activities, from which the *Dis/Ordinary Architecture Project* developed.

We believe this exciting energy and commitment comes from a shared recognition of the value of starting from difference through working with disabled artists,



centrally by beginning from immersive and embodied experiences. This is crucial to learning architectural and interior design (but does not often happen). In addition, the artists have demonstrated how disability and impairment can offer creative design opportunities, rather than be a ‘boring’ problem to be solved. The fact that having a visual impairment made you ‘see better’ (Zoe Partington) or having a hearing impairment make you pay much more attention to sound and how it works (Joseph Young) can be a powerful way of shifting tutor and student assumptions about disabled people.

However, it is clear from the prototype activities that educational projects need to do more than just raise students’ sensory awareness (that is, increase their notice of all their senses in space) – a generative element in both the Westminster and London Metropolitan examples. Rather, a core theme should be to enable students to critically and creatively reflect on both their own ‘being in the world’ and – crucially – on that of others. For disabled artist Liz Crow for example, the project meant:

*“realising the extent to which addressing my own need to lie down was not only about finding a personal access solution but, in and of itself, was a subversion of architecture. (...) I demonstrated the extent to which architecture has designed out bodies such as mine. (...) In doing so, my personal needs extended into a site of activism and creativity.”*

Another finding was that we need to explore ways of better enabling students to translate their developing awareness and understanding of disability into actual designs. How can difference be represented, mapped and responded to through design ideas and spaces? How can we better integrate functional access with creative and aesthetically beautiful interventions through co-designed activities? Crucially, the artist’s role here is not merely to ‘represent’ a category of impairment, but to share and build on their own creative arts practice. But the sheer fact of an artist having a disability is not enough for taking on the kinds of engagements being explored; it will require mentoring and other kinds of support. We are also aware that we need to clarify what kinds of outcomes we want. Much of our wider audience feedback wanted to see immediate impact on students’ work produced from the co-created activities. They wanted the work to directly evidence some change in attitude and/or

design quality. We need to be clearer on what counts as impact and how we measure it.

Finally, we would like to work out how to better challenge the way terms like disability, access and inclusion are ‘normally’ embedded within built environment education and practice which tends to reproduce already held assumptions that any disability-related activity will be ‘politically correct’, non-creative and inherently dull. There is a need to shift away from common sense discourses within architecture and the built environment that treat disability as a technical problem to be ‘solved’ by retro-fitting at the end of a ‘normal’ design process. This also requires exploring how to not lose the experience of disability, whilst being able to connect with questions of difference and diversity more widely, as well as associated concerns like sustainability and healthy cities. However, this must not avoid disability discrimination and inequality or the real disabling effects of inadequate access to, and lack of inclusion in, the built environment. Doing this requires re-inventing both discourse and ways of operating. Longer term the aim must be to embed difference and dis/ability as a new ‘normal’ in architecture, interiors and built environment education and practice. As one of our support network members put it “this is not about disabled people being ‘allowed’ into the existing club, it is about creating a different kind of club.”

The *Dis/Ordinary Architecture Project* is already planning a series of activities across eight UK universities next year (funding permitting) some of which will include expanding and embedding the disabled artist-tutor co-partnering model across entire courses and departments. We are also looking to a longer-term robust and sustainable strategy – both for the platform and for our activities – so that working with a disabled artist in education does not simply default to the ‘normal’ special yet marginal category, as a one-off that does disability and inclusion so that it can be safely ignored elsewhere in a course. We hope that increasingly architecture and related courses will take responsibility and ownership by, for example, directly funding disabled artists and tutors, disabled artists in residence etc. To support the intended scaling up we next aim to find ways to:

1. Produce a set of principles that can express our critical and creative differences compared to ‘normal’ ways of doing disability and access with



architecture and built environment education and practice.

2. Use these principles to creatively underpin next stage development of projects, resources, training and networks that can grow both the *Dis/Ordinary Architecture Project* platform and the range of activities it supports.
3. Build on the expertise already developed to train and mentor more established and emerging disabled artists interested in the built environment for potential roles in built environment education and practice
4. Develop workshops for architectural and built environment professionals, educators and students that can generate alternative creative and critical attitudes, activities and discourses about dis/ability across the discipline

Ultimately, creating the connections that enable new and innovative engagements with disability in architectural and built environment education practice through the creativity of disabled artists depends on working from where different students, educators, universities and practitioners 'come from'. This will require a range of engagement strategies, potentially including collaborating on research activities as well as co-partnering on design courses. We believe that starting from disability can open up innovative and unexpected understandings across the whole range of architectural education and practices; its histories and theories; its attitudes towards, and deployment of, technologies; and in its design processes and practices. Going forward, the project would like to explore and exploit all these possibilities<sup>5</sup>.

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- 3 Short videos of each project (together with an overall introduction video) can be seen at <https://vimeo.com/album/4562223>.
- 4 Available to view online at: <http://www.aaschool.ac.uk/VIDEO/lecture.php?ID=3675>
- 5 The *Dis/Ordinary Architecture Project* can be contacted at: [disordinaryarchitecture@gmail.com](mailto:disordinaryarchitecture@gmail.com)



Figure 3. Rebecca Brown, March student MSA Room design for mental health (2017)

# Critical Reflections on the Inclusivity and Diversity of Live Community Architecture Projects.

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## ABSTRACT

One of the key ways in which architecture students are prompted to connect with clients, users and community groups is through engagement with live projects. Students are invited to work with, and/or for, an external collaborator for their mutual benefit. These kinds of projects are celebrated for the way in which they can introduce students to the complexities and contingencies of working with a range of collaborators, and their potential to facilitate a positive change within the communities in which they operate. However, the inclusivity and diversity of those collaborators and the impact that this can have on the ethics and the process and legacy of the project is often overlooked.

This paper critically reflects on four years of involvement in live community-based architecture projects run through Hands-on-Bristol at the School of Architecture, University of the West of England, Bristol, UK, using a framework drawn from the radical transformative pedagogies of bell hooks<sup>1</sup> and Paolo Freire.<sup>2</sup> We define the projects that we engage in as a form of spatial agency which involve a community or not-for-profit organisation in collaborating with architects and/or architecture students to co-create a brief, timescale, budget, product and process for their mutual benefit, with the intention of making a positive impact in these communities. The projects have an implicit ambition to assist in empowering community groups to become involved in the co-creation of their space, and to raise awareness of the conditions that shape a community's place in their world. These projects have shifted over the time from working with more established community groups, already active and engaged; to working in more deprived and diverse communities with often, less established community engagement and inherent social capital. With this shift, we have aimed to seek out less vocal minorities to challenge questions of difference and engage in inclusive co-creation.

The impact of working with more diverse and inclusive groups has highlighted a range of issues. These can be conceptualised under three key fields: ethics, process and legacy. The ethics of engagement particularly highlights the risk of working in an imperialistic or patronising way that reinforces rather than challenges questions of difference, and has the potential to be exploitative rather than synergistic. The implications on the process of working to give a voice to disempowered groups raises additional challenges in co-creation. Observations identified an increased tendency for these groups to give passive responses to engagement activities compared to more empowered groups who were more likely to have strong ideas about what should happen and how. This also has an impact on the way in which the projects enable groups to take ownership of the projects: the handover and legacy for the projects in places with less social capital and access to resources. All of these suggest subtle shifts in practice towards working with, rather than for, thereby establishing more carefully developed methods of engaging and longer-term capacity building.

**KEYWORDS** inclusivity, diversity, empowerment, community, architecture

### Introduction

Hands on Bristol is a vehicle for collaboration between the Bristol School of Architecture, University of the West of England (UWE) and Bristol communities. As part of its remit it facilitates exchange between architecture students, client and user groups through a range of models but primarily through a Live Projects element for Part 2 MArch students and Agency projects for undergraduate students who undertake a 6 week placement working in practice.



Figure 1. Growing together event - low level making workshop for children and adults. Photo: H.O.B

The real life elements of UWE's architectural programmes build upon the premise put by bell hooks that:

*"Teachers who have a vision of democratic education assume that learning is never confined solely to an institutionalised classroom. Rather than embodying the conventional false assumption that the university setting is not the 'real world' and teaching accordingly, the democratic educator breaks through the false construction of the corporate university as set apart from real life and seeks to re-envision schooling as always a part of our real world experience, and our real life."*<sup>3</sup>

Effectively the statement of intent to re-envision schooling and integrate this into real world and real life can be seen as a manifesto for an approach to embed a more democratic ethos into architectural education.

This paper focuses primarily on the Live Projects delivered at Part 2 and reflects critically on four years of running this as part of the design studio programme in collaboration with a client and user targeted professional practice module. In referring to 'Live Projects', we have used the following definition:

*"A live project comprises the negotiation of a brief, timescale, budget and product between an educational organisation and an external collaborator for their mutual benefit. The project must be structured to ensure that learners gain learning that is relevant to their educational development"*<sup>4</sup>



Figure 2. Wayfarers - Stage structures for a street reclaiming event. Photo: H.O.B

By 'external collaborator', we generally mean a client or client organisation. The criteria tallies with that contained within Sheffield University's Live Project Handbook<sup>5</sup> stating that they:

*"should normally be from the public or voluntary sector and not have the capacity to commission this project otherwise."*

Regarding the project and again using Sheffield University's definitions, the objective has been that:

*"the project should be socially-engaged and potentially offer opportunities for participation of a community beyond the immediate client group". It "should have the potential to be transformative for the client organisation."*

### Enter the real world setting: The client

Within UWE's architecture school, the Live Project is one of the modes of delivering a democratic educational framework. The policy is for Part 2 students to work with clients representing non-profit endeavours to provide a service that might not otherwise be afforded. This service for the client and the valuable learning opportunity to be acquired by students are intended as integral parts of an equal exchange.

In reality whilst the non-profit element reduces the range of eligible clients, the client type is quite loosely defined. It is however possible to identify three basic

client types relating to experience as follows:

1. The expert client i.e. one who is used to commissioning architectural projects.
2. The expert client with architectural training and who may be practising architects themselves.
3. The lay client who has had no previous experience of working with architectural consultants on projects.

There are different implications for the interactions, dialogue, language, process and outputs with each of these client types.

Clients have ranged from neighbourhood place making groups, organisations in the voluntary sector, local residents, local grassroots activists and so on. However, whilst client types might be relatively easily categorised in terms of experience related to architectural or design projects and category of organisation, there are concerns that the mechanism for engaging with clients indicates that we are still not reaching those groups who are typically excluded from determining their environments. The current prevailing mechanism is by-and-large through word of mouth and this may be inadvertently bringing client representatives whose backgrounds are too similar to those of the Hands-on-Bristol team and excluding others. It should be an ambition to widen the network and increase the diversity of the client pool encompassing all ages, race and ethnicity, religion, gender, sexual orientation disability, mobility socio economic status and more. In addition, exposure to different values and politics should also be in the frame.

### The students

UWE's Part 2 students are quite diverse and include international students. A few are on the part time route. Most have generally had some experience of working with a client in practice. However, their diversity does not necessarily reflect the profile of the communities they engage with, and the Live Project client and user groups may be very different from the type of client they have worked for previously. The consequences are that students may not be sufficiently attuned to Live Project client and users or the social and cultural context. It is therefore implicit that part of the learning is extending knowledge and skills relating to different contexts and social environments. In achieving this, cooperation between all parties is an essential ingredient. Sennett states that:

*"Cooperation oils the machinery of getting things done, and sharing with others can make up for what we may individually lack. Cooperation is embedded in our genes, but cannot remain stuck in routine behaviour; it needs to be developed and deepened. This is particularly true when we are dealing with people unlike ourselves; with them, cooperation becomes a demanding effort".<sup>6</sup>*

Freire puts forward the notion of education as a transformative model whereby it embraces the *"practice of freedom and bringing into consciousness the conditions that shape the student's places in the world."*<sup>7</sup> The Live Project may be seen as a vehicle for introducing a series of unknowns including the client group, the users, the student dynamics, the brief, which through the interactions facilitates a more inclusive idea of a learning community and in particular raises students' awareness.

Katharina Wolf<sup>8</sup> through her own teaching experience of successes and failures recognised the need to understand the client better, in order to take a strategic approach to setting up Live Projects.

### The tutor

The third critical party in the workings and delivery of Live Projects is the tutor and the role they will take. The general principle is that they will adopt a 'hands off' approach where they work in the background offering guidance to and mentoring the students but not determining the direction of travel. As an even smaller group than the students, they will inevitably not reflect the diversity of all the client and user groups and whether or not they bring to the table an understanding of all the range of clients is debatable.

*"Educators who challenge themselves to teach beyond the classroom setting, to move into the world sharing knowledge, learn a diversity of styles to convey information"*<sup>9</sup>

It is imperative that a critical discourse is maintained between tutors in examining their role, their own knowledge in the delivery of Live Projects and in setting pre-project commencement assignment criteria where the likely inputs and the outputs are unknown.

### The questions

In critically reflecting, the following areas have been identified for consideration, namely:

- The prologue.



- The selection of client.
- The deal.
- The timeline and process.
- Beyond the deal.
- The impact and aftermath.

All of these have historically raised opportunities but also challenges, contradictions and other questions.

### The prologue

Aspects preceding the formal commencement of a project may affect or influence the potential for successful outcomes. The tone of the pre-project discourse and confirmation may be one of the areas that should be afforded more scrutiny. Further consideration also applies to the preparation of the students and the clients in advance of the agreement to undertake a project. In the case of the students, this might include aspects such as discussions regarding language usage, behaviour protocols, requirement for full engagement, and avoidance of preconceptions and stereotyping. Sennett<sup>10</sup> emphasises the need for:

*“responsiveness to others, such as listening skills in conversation, and on the practical application of responsiveness at work or in the community.”*

He defines “tribalism” and points out the dangers thus:

*“Tribalism, involves thinking you know what other people are like without knowing them; lacking direct experience of others, you fall back on fearful fantasies. Brought up to date, this is the idea of the stereotype.”*

Importantly more preparation for team working through introducing the Belbin theory would serve to highlight the fact that the student groups need to pull out the strengths of individual members to make best use of their skills resources, but also to instil confidence in bringing their own individual knowledge to the table. These skills include good verbal communication as well as graphic abilities, emotional intelligence and inclusive interpersonal capacity. Irene Bauman<sup>11</sup> offers a useful and amusing interpretation in this respect. Preparatory work might also flag up early on whether there are issues to be addressed in relation to the group dynamic such as the ‘too loud voice’.

Also part of the mix in terms of the students’ input is that a Live Project will differ from a typical in-house design project in that it will not involve a linear exercise where the students choose how to respond to a set assignment and demonstrate process that

terminates in a defence of and substantiation of a proposal. The Live project entails a to-ing and fro-ing with client and users the objectives of which are to fulfil the needs of users.

Further preparation in the case of the client might be about clarifying some of the expectations both in terms of outputs and time frame. Perhaps some of the preparatory work may be more obscure, but might involve more scrutiny in relation to the appropriateness of a particular project and client in relation to meeting both the architectural education outcomes as well as those of the client.

### The selection of the client

Whilst there are written criteria in relation to the client type, there are times when we may have strayed from this and this may need to be monitored more carefully in future.

What has been reviewed to date is the appropriateness of having architects as client representatives. This is in part due to the shared language and therefore absence of ongoing learning in different modes of communication. What has occurred in some instances is that the architect has been a barrier to connecting more directly with end users or the real client, or they have acted as an employer rather than a client or imposed their own ideas pre-empting the conceptual exercises students are expected to undertake.

There has been a tendency for the client lead representative to come from a fairly narrow social group and for them to be white irrespective of the constitution of a local neighbourhood. Again, this may raise questions about creating a barrier between the end users and leads back the question of seeking strategies for connecting more directly with more excluded groups.

### The deal

The deal starts with the promise and agreement between the client and UWE regarding the outline nature of the project and the possible expectations of the students who will work in groups. The initial communication is usually via a tutor and the written agreement set out typically by the design studio module leader or the designated project tutor. One ongoing concern is whether the introductory tone embraces the commitment to an inclusive ethos or instead



endorse a deficit model, one of conferred patronage. Is there embedded in this correspondence an inference that the objectives of the design studio might take precedence over and run counter to those of the client? The ambition should be for the interests of both to be compatible and complimentary. As part of the bargain between the institution and the client, it behoves the tutors to ensure that what the client receives is appropriate for their purposes and in doing so some quality assurance oversight is needed.

Students are offered choices on which project group they go into but not about the other students they will be working with. With the project being set early on in the first year of Part 2, students do not generally know each other, so in addition to Wolf's 2010 observations in relation to students developing an understanding of the client, a further factor is students developing an understanding of each other. The dynamic arrived at between them may or may not be positive and can affect the decisions made and the quality of outcomes. In some instances, students very quickly establish areas of strengths to form an effective collaborative whole but in other cases personal conflict, tensions or uneven engagement detract from the work.

In setting the students off to meet the client (usually with tutor as an observer), have the students been sufficiently briefed in terms of language and behaviours? The language of the design studio all too frequently becomes more and more distant from layperson's speech as students' progress through the years of academic study. For some students the failure to recognise the different nature of verbal exchange can impede the development of understanding between the student, client and users in both directions. For others the opportunity for dialogue pulls out strengths in students who may not otherwise be seen to be excelling within the conventions of the design studio. An understanding of the client, the context and the requirements of the project are all-critical in contributing to successful outcomes. For instance on one project the Red Brick Building in Glastonbury from meeting the client and walking around with a client representative, the students immediately seized the nub of the issue and recognised that a strategic and phased approach was needed rather than a prescriptive design solution. However, for two years running on another not dissimilar project, students failed to grasp the strategic aspects and failed to recognise the

difference between putting forward fixed proposals and visual images which can act as short hand communication as part of the back and forth exchange of ideas needed.

On another project for a Black Asian and Minority Ethnic (BAME) organisation providing services amongst others for BAME youth, students failed to research adequately and understand more precisely the cultural and social contextual aspects that framed the conversation with the client. The early mistakes led to potentially embarrassing errors in terms of choices of location in the consultation process.

Further, there may be questions as to whether value judgements, characterisations and/or preconceptions can affect the tenor of the exchange between clients, users and students and the integrity of the outcomes. One project despite being told by the client that homeless people on the site should be considered respectfully, students repeatedly characterised this group in a prejudicial way in their reporting even after being reminded not to do so.

Both the student and the client dynamics have been affected by the loudest voice factor. Regarding clients, this has typically manifested itself in some form of gatekeeping either through barriers to wider engagement with users or silencing other less vocal client or user representatives. With students, assertions of power overriding collective, critical discourse and appraisal can often result in poorer quality of outputs through the failure fully to recognise, acknowledge and utilise the individual attributes of all the students in the group amongst other things.

Tutors in observing some of the developing dynamics and bringing in their empirical knowledge from experiences, need to consider whether some form of benign intervention might be needed.

In examining the expectations of the students in relation to their studies, tutors need to reflect on the potential contradictions between the teaching of architecture when contained within the walls of the architecture school and 'the learning by doing' ethos dictated by the Live projects. What is considered a design report through which a student reflects on the process of design leading to the proposition, may not be the best vehicle through which to convey the complexities and objectives of a real world project. The adoption of a case study model in lieu should permit more examination of the design, the consultative

and participatory processes, critical reflection of the student team dynamics, interactions with and understanding of the client users and contexts.

### The process and timeline

The projects run for approximately six weeks in the first semester. Within this, there is an expectation that the students will not only get to know each other and work out how to work as a group. The group aspect itself may be viewed with some suspicion by certain students who regard this as conflicting with the individual attainment format of the overall degree award. Sennett provides a helpful analogy: the 'solo' practice and 'rehearsal'.

*"Rehearsals are the foundation for making music; when rehearsing music, listening skills become vitally important, and in listening well, the musician becomes a more cooperative creature."*<sup>12</sup>

Levels of engagement can vary and this can affect the efficiency of the overall group. Students need to gather at speed an understanding of the client, context and the means by which to develop the requisite brief. The latter might vary from 'give us ideas' to we want a summer school building. Frequently in the mix are other complexities such as other stakeholders or interested parties, different hierarchies and the students' need to try to understand where these all fit.

Challenges not only involve the linear timeframe but also the potentially conflicting time demands of clients and students. There is an implicit expectation that the client will be able to accommodate the weekly timetable of the students, however this is frequently not the case so administratively and organisationally there are negotiations to be concluded.

In previous years, the output has been a presentation, design report within the design studio and a feasibility report within the professional practice module accompanied by relevant correspondence and a client presentation. The output is now defined as a feasibility report within the design studio and a client presentation and case study within the professional practice module. This revised configuration starts to take more account of the needs of the client in terms of usable documentation but also the value for the students of further time to reflect on the relationship with the client, the group dynamics, the appropriateness of the consultation approaches and the efficacy of the project outputs. Some useful critical

commentary has been derived from the case studies. What may not have been entirely dealt with are other aspects relating to the formal completion of the design studio project and who picks these up.



Figure 3. Ashley Vale Allotment Association - model for collaborative master-planning photo: H.O.B

Although the outputs are defined for assessment, the decisions by students regarding approaches to consultation does inevitably include other deliverables such as models and interactive participatory activities. Again, some student groups excel at this and indicators of success would be the gathering of numerous local people of all ages and backgrounds to join in and contribute their perspectives and opinions. Less successful approaches might result in an unwillingness of people to engage, or the wrong questions being put. Some participatory mechanisms and devices are introduced to students as examples but may need to be revisited.

### Beyond the deal

A feasibility exercise by inference generally means that there is a next stage in terms of the project itself and a number of projects have gone on to be realised. Sometimes this has been through students volunteering, carrying the next stage through to the next year's Live Project or passing it on to the undergraduate Agency Project. However, in some cases where the project has been passed on to another cohort, there has been a loss of continuum, contextual knowledge and understanding of the client. At the very least, the transfer has required a new set of students to get to know and understand the needs of the client and users. In this instance, a new group dynamic may change the nature of the client dialogue and relationship either favourably or unfavourably.



Figure 4. Pillgwenly – presentation drawing: visioning a new public space. Photo: H.O.B

Irrespective of whether the project continues long term or not, there is usually some aspect of the project or the aftermath that needs to be dealt with after the formal Live Project timescale ends. What has been problematic is the number of occasions where tutors have had to try and bring things to a resolution, whether it is as basic as cleaning up steps to remove chalk paint or spending time working out how best to move a project on beyond the feasibility stage.



Figure 5. Ebenezer Gate – final pocket park intervention in use. Photo: Marcus Way

### The impact and legacy

For the client the expectation is that a project that they would not have been able to realise without working with the students, is one that they can move forward with and be successfully realised. Projects for Elm Tree Farm in Stapleton and Ebenezer Gate in Bedminster are examples of ones that have been taken forward and are or have been realised.

For students outcomes will inevitably vary depending on their own backgrounds, original

aptitudes and engagement, but there is an expectation that they will have enhanced their verbal and non-verbal communication, learnt more about group dynamics, interactions, organisational structures and hierarchies. With the case study reflective element, they may have more opportunity to recognise their own and others' strengths as well as their shortcomings and to assess what did and did not work. Perhaps most importantly where they have worked with clients and users who are outside their cultural and social references, they will have learnt to value aspects of diversity through the exchanges, increased their social awareness and intelligence.

For tutors, ongoing discussion and reflection is needed on the success or otherwise of the project outcomes but also in relation to selection of clients and projects.

Student cohort dynamics as well as group dynamics differ from year to year and responding intuitively and flexibly are part of the mix that tutors need to bring. Adaptability to address immediate issues as well as establishing clearer protocols for action and recording are some of the areas that need to be developed further.

### Next steps

In relation to the stated earlier ambition to widen the diversity of the client base as well as engagement with a wider and more diverse user base, clearly a dialogue is to be had in relation to the mechanisms for achieving this. Does there need to be a change in how we target potential clients? Does there need to be a more community focussed page on the website? A community audit to highlight low participation neighbourhoods (LPNs) and form links that are more direct would assist in identifying where we are already working and where particular groups or locales might be targeted. Partnering-up with other advisory organisations might also be part of the strategic moves to augment the connections.

Regarding the client student dynamic in navigating each stage of a project, a checklist template might assist in identifying, monitoring and reviewing progress and quality of delivery set out in the agreement. We also need to consider where projects continue beyond the original scope whether and how UWE can continue to facilitate student involvement for the benefit of both the client and student learning.

Overall we do need to examine further, address

and monitor whether an inclusive or a deficit model is being delivered and seek more tools and techniques to mitigate different aspects of power imbalance, mediate for equality of process and outcomes to ensure respectful and non-value judgement engagement and outputs.

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# Building Community on a Frozen Lake

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## ABSTRACT

This paper details a first year design build project at McEwen School of Architecture in Sudbury, Ontario, Canada. The project teaches respectful building practices through a collaborative process to achieve ecologically sensitive designs. The school's unique isolated setting in Northern Ontario offers opportunities to develop relationships between the university and surrounding communities. The school's activist pedagogies seek to speak to the area's Aboriginal, Francophone, and Anglophone communities through timber based hands-on projects.

**KEYWORDS** design build, resiliency, wood structures, indigenous precedent, place

Laurentian University is located on the northern edge of the industrialised world in Canada. The city of Sudbury, Ontario where the university is located is home to 300 lakes and lies within the Great Lakes forest system one hour north of Lake Huron. Vast tracks of 'bush' surround and interrupt the city, black bear occasionally roam the streets. The area has been home to a series of First Nations peoples for thousands of years and several Anishinaabeg, primarily Ojibwe communities, are part of the settled matrix. French fur trading *voyageurs* were active in the area in the second half of the 17th century and many local households are Francophone today. In the late 19th century loggers stripped the area of its majestic white and red pine first growth forests to build cities to the south and rebuild Chicago after the fire. More intensive European colonisation began after extensive nickel deposits were discovered there as the trans-Canadian railway was being built. Within two generations the land was denuded of its remaining vegetation and topsoil. "By the 1970s, more than 19,500 hectares of land around Sudbury were completely devoid of vegetation and another 64,300 hectares...supported little more than

an occasional stunted birch tree and lonely tufts of grass."<sup>1</sup> The Precambrian bedrock shield was exposed and stained through the pollutant results of hard rock mining processes.

What had been named Sainte-Anne-des-Pins, Saint Ann of the Pines, became Sudbury, a black lunar landscape. The city of 160,000 inhabitants is in the process of reclaiming its botanical and limnological heritage. A massive re-greening effort was undertaken in the late 1970s literally carrying in bags of dirt and lime to spread as soil for tree seedlings.

In 2013 in another resilient effort the city and university worked together to open a downtown school of architecture hoping to reinvigorate the city's central core. Typical to small and midsize cities in advanced consumerist countries most retail activity has abandoned the core in favour of big box locations on the urban periphery surrounded by large parking lots. The initial proposal to establish a school of architecture downtown came from community residents, not the university. Thus, the school has arisen from the unique circumstance of being summoned by the community for the community. The school's foundations require



it to be very directly involved in the city as a place for the introduction of academic architectural inquiry into the political, physical, social, and cultural realities that surround and support it. A tri-cultural mandate was established to address the First Nations, Francophone, and Anglophone communities. Support for the area's resource based economy, primarily the regional timber industry, is a material goal.

The design build project described in this paper is the work of the first year students at the new downtown McEwen School of Architecture. This project was the primary assignment of their introductory design studio for the 2015-16 and 2016-17 academic years.<sup>2</sup> In this course students are focused on understanding the concept of place, specifically Greater Sudbury and northern Ontario. Many of the students are from more urbanised areas in southern Ontario and new to the north. To ground them in its geologic, historic and cultural context we begin the course with a series of fieldtrips. This is the start of their interaction with the community around them outside of the university. They are introduced to the natural surroundings at Onaping Falls, a waterfall on the edge of the massive crater formed by the meteorite, which transformed the areas' bedrock structure 1,850 million years ago.<sup>3</sup> The meteorite's impact congealed and brought mineral bearing ores near to the earth's surface. The waterfall cascades over exposed bedrock and is surrounded by forest giving a concentrated image of a quintessential northern Ontario setting. It is a favourite motive for *plein air* painters. Another trip leads to Dynamic Earth, a physical science museum, which details the Sudbury basin's geologic history and includes a tour down into a reconstructed mine where the students can begin to understand the complex working world under their feet. An introduction to contemporary First Nations culture is provided at Wahnapiitae Community Centre. After an air purifying smudging, a ceremonial burning of sacred medicines, the "7 Grandfathers' Teachings"<sup>4</sup> of wisdom, love, respect, bravery, honesty, humility, and truth are explained. This is followed by a visit to the pow wow grounds on Lake Wanapitei, which was formed by yet another meteorite impact 37 million years ago.<sup>5</sup>

The school's interest in championing wood as a building material begins with their first exploration into three-dimensional form making. In this first assignment students use the chisels which are part

of their initial complement of architectural tools to investigate and examine wood's structure and physical properties to create form from and manipulate the surface of a log cross section. Their second exercise is to produce a set of site-measured drawings of a miner's log cabin in Copper Cliff, a nearby early mining company town. After this introduction to the physical nature and peoples of Sudbury students embark on their first architectural design project. Approximately fifteen students and one professor negotiate a collaborative design path together.

The project is to design and build a pavilion to be placed on a frozen lake located in the centre of the city. Ramsey Lake is the city's primary potable water source, as well as a central spot for summer recreational activities of swimming, sailing, and rowing. In the winter after ice forms to a proper safe thickness of approximately 15 centimetres a 1.5 kilometre long ice skating path is prepared and tended as long as weather permits. Sudbury is a winter city where it is not unusual to experience extended periods of -20°C temperatures in December, January, and February. Over the past two years we have installed nine follies along the skate path. During their time on the ice the stations provide stops for afternoon skating or walks for individuals, couples, and families.

Through an iterative drawing and modelling process one design emerges from each of the four to five studio groups per year. It is at this point that students have the rare opportunity to build at 1:1 the first project that they have designed in architecture school. The design and build process of the ice station christened Oculus Prime<sup>6</sup> will now be examined in greater depth as one example of the nine projects.

The design process of this particular project traces its origins back to the experimental pedagogies pioneered in the mid-20th century at Black Mountain College in North Carolina a secluded refuge for alternative education. Its summer programs were especially inventive by way of visiting faculty. Most importantly for this project were the examples provided by the practical application of theories explored by John Cage and R. Buckminster Fuller during their appointments. Cage was looked to for his work with indeterminate composition structures. Fuller was referenced for his experiments with architectural structures.

Initially the designers of Oculus Prime were

introduced to building materials through individual experiments into structure and form making with paper maché. They were instructed to develop a module using a piece of newspaper no larger than 10cm × 10cm. With only flour paste as a binding agent they manipulated the newsprint without cutting or tearing it whereby they discovered the limits and possibilities of a specific material. The unruly nature of paper maché was prescribed exactly for its ability to set the limits of its manipulation and frustrate the students' design wilfulness. Each student assembled their design into a mobile which needed to fit in a 50cm × 50cm × 50cm volume. This indeterminate design process echoes for example Cage's works where he 'chose multiplicity and this maximal information to remove human agency and to produce a highly abstract composition.'<sup>7</sup> This process defines another type of parametric design in comparison to the more common references regarding digital fabrication. Here by using very physical means and methods the definition implies limitless experimentation within tightly drawn instructions or parameters where multiple questions test the rules and where there are no right or wrong answers. Materials and dimensions are rigid, but within these boundaries everything is allowed to emerge.



Figure 1. Sky and ice toothpick diorama (Randall Kober)

The next set of instructions involved program, site, scale, and another challenge in the use of materials. The function of the pavilion was presented as simply a place to stop and sit along the skate path. The site was represented as a hand sized collage diorama of a place between the winter sun above and the frozen water below. The material challenge was limiting the model making material to common square edged

toothpicks, which assumed the scale of a twelve feet long 2×4 at 1:50 if used at its full length. The humble 2×4 is the most ubiquitous timber building material in North America. Because of its utter banality it was given as the building material to test its possibilities for alchemic transformation. The students' design moves are defined by the toothpicks' size and by requiring only carpenter's glue as the adhesive. Their actions are guided by their ability to manipulate elements at a very small scale and at a very slow pace. Hence as with the paper maché the students' attention to detail and manual facility is developed through the contemplative making exercises. Moves are deliberate and reassessed as the glue dries in their hands. Several models are produced individually and then work in expanding groups at ever increasing scale on collaborative models until consensus is reached on a final schematic design. In this instance broken up toothpicks employing a balloon as removable timbering and several instances of emergent hexagons were chosen as the models to explore at larger scales.

The combination of the overall round skin composed of repeating bits and the structural possibilities of a modular hexagonal structure lead to the exploration of 'energetic geometry',<sup>8</sup> particularly the geodesic structures that Fuller had developed at Black Mountain College in the summers of 1948/9. Fuller's futurist philosophy speaks to the ancient Anishinaabeg teachings. Fuller's holistic efficiency and mankind's piloting of 'Spaceship Earth'<sup>9</sup> parallels the Grandfather's teaching of respect of our world. By designing and building collaboratively an efficient and 100% compostable structure it was desired that the idea of respect, "to honour all the creation is to have respect"<sup>10</sup> and humility to "take pride in what you do, but the pride that you take is in sharing that accomplishment with others"<sup>11</sup> could be learned through this project.

Werner Sobek's article "Architecture Isn't here to Stay, Toward a Reversibility of Construction"<sup>12</sup> was required reading to further emphasise the idea of thoughtful, careful building through a contemporary source. In this article he argues for *Materialleichtbau*, building with lightweight materials; *Strukturleichtbau*, building with light weight structures; and *Systemleichtbau*, building with lightweight systems.<sup>13</sup> Combined, these concepts enclose maximal areas with minimal materials and complete clear constructions

which can be easily deconstructed and reused or recycled.



Figure 2. Design development model at 1:10, milled spruce and birch twigs (Lorne MacEachern)

Aside from limiting the students to 2× material they were challenged to devise a structural system that did not employ metal fasteners or glues. Several frames were made using 2×2s, 2×3s, and 2×4s. The frames were evaluated for their stability, which was dependent on the wood cross section's ability to accommodate methods to join the frames within themselves and to one another. 2×3s, an item usually only used in mobile home construction were chosen as the main structural members. After bevelling the pieces along the edges that would form the butted seams between frames enough material remained to form stable open mortise and tenon corner joints. The tightly crafted corner joinery is held together with dry fit dowels. This element of the project further reinforced the students' sense for the limits of specific materials in detail and further developed their manual skills. The matrix of the Fuller inspired structure of hexagons and pentagons are lashed to one another with a redundant pattern using common baling twine. The entire structure is stitched together, laced up like an ice skate.

Parallel to the development of the primary structural system several attempts were made to arrive at an infill material and pattern for the frames. After much debate ripped down 2× stock, rather than branches, sticks, and twigs were woven into the frames. The benches are also composed of 2×3s structured by an interlocking box joint system bound together by baling twine.

An opening event, a *vernissage* for the ice stations where the community is invited to a group skate around was advertised through the local papers, radio,

and websites. Hot chocolate was available next to a bonfire on the ice where the scraps of the construction process were burned. S'mores, a sandwich of toasted marshmallows and chocolate bar squeezed between graham crackers were prepared and served.



Figure 3. Design development model at 1:1, milled spruce and birch twigs (Lorne MacEachern)

The stations' placement on the ice was scheduled to correspond with Ontario's February Family Day holiday. Long lines formed outside the shelters on the holiday as people waited their turn to enter and experience the interiors. Hundreds of selfies were posted.



Figure 4. First kids at rest (Randall Kober)



The examination of, interaction with and discussion about the pavilions are for many an introductory course in architectural appreciation. Perhaps these small structures can lead to higher design expectations in the city's built environment. It is our hope that ice stations can inspire a new generation of architects for the north.



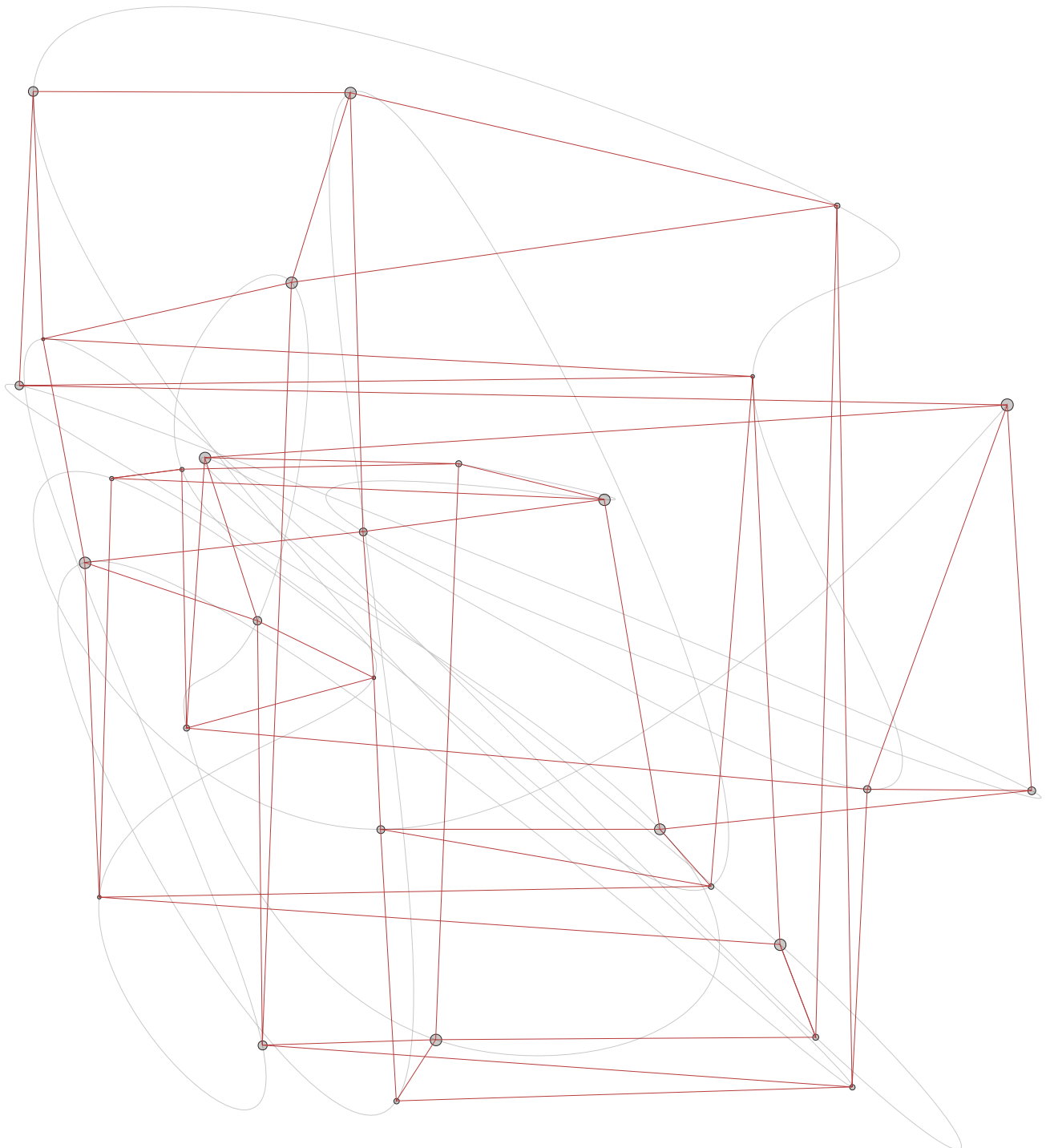
Figure 5. Exterior (Randall Kober)

Oculus Prime was broken down into its constituent hexagons and pentagons in March. This fall the students who made it will reassemble it alongside the group from this year's first year class who will design and build its successor. It will be reconstructed in the forest surrounding the university's main campus. Oculus Prime's untreated lumber and twine will be allowed to slowly decompose into the forest's floor. It will recede back into the earth as Anishinaabeg wigwams have been doing for centuries and provide soil for tree seedlings.

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## 2.10 CREATIVITY





# The Co-Production of a Speculative Future: resisting 'chasing the narrative'.

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## ABSTRACT

This paper describes a design studio that addressed the perceived problem of students 'chasing the narrative' at the expense of architectural design during their design projects. It argues that through collaborating with a Science Fiction novelist, students were able to commit to a scenario and narrative sooner, and the 'cognitive estrangement' that it engendered encouraged greater critical perspective on present-day society and architecture. Through further collaboration with a Graphic Novelist, students were also able to commit to proposals earlier without thinking of the brief-building and design development as different phases of the design.

**KEYWORDS** science fiction, graphic novel, co-production, design studio

This paper discusses a design studio I ran in the first year of the M.Arch at Newcastle University last year. The students collaborated with a historian, a science fiction novelist and graphic novelist to co-produce a master plan for a suburb of Rotterdam, 70 years in the future. Although this is not an original idea, I wanted to share and reflect upon what did and didn't work, and how it might be developed in the future.

In general, M.Arch studio projects are often more about using architecture as a critique of society, with the students having to come up with their own project brief through some kind of research in order to address an issue that has a spatial component. The students' design process is then about responding to this issue, and the 'solution' is the architecture. Whether or not architecture can 'solve' these issues is not for this paper to contemplate.

This approach to brief-building as part of the design process is valuable for many reasons. It teaches valuable transferable research and critical,

independent thinking skills for both those who don't end up in architectural practice and for those who do. In any case, architectural practice is changing rapidly, and researching and building briefs is potentially as much a part of architectural practice as designing buildings to a client's brief.

However, I've recognised an emerging tendency for students to 'chase the narrative'. By this, I mean that they spend more time designing and refining the narrative that comes from the brief they've constructed than they do designing the architectural response. They become enamoured with the fact-finding research, which is less risky than proposing a response. Not only does this prioritisation of the narrative often come at the expense of design, but it also often results in students 'talking' the design rather than drawing it. Then reviews are spent talking more about the scenario, the brief, and the narrative than about the architecture. When this happens, one has to question what is being learned.

So the design studio brief that this paper describes addresses these two problems: first, to relieve the burden of the scenario creation from the student alone, without removing the need to do research for developing a brief; and second, getting the students to draw the design rather than talk it.

### Science Fiction as a Speculative Future

To address the first problem, I invited a professional writer to collaborate with the studio: someone whose day job it is to create credible scenarios. Ken MacLeod is one of the most eminent science fiction writers in Britain today, having published 18 sci-fi novels and a number of short stories since 1995. His fiction explores socialist and anarchist political ideas with post-humanist themes, with Wikipedia describing his outlook 'techno-utopian socialist'.<sup>1</sup>

Science Fiction is a rich field for architects to plunder, as Nic Clear has already pointed out:

*'Architectural design is always about the future; when architects make a proposition they always assume that it takes place in some imagined future. Architects nearly always assume that this future will be 'better' than the present, often as a consequence of what is being proposed. Architecture is, by its very nature, utopian.'*<sup>2</sup>

While Clear claims that contemporary architectural utopias are more concerned with form than politics or society, I am more interested in the 'Idea of Progress': that tomorrow will be better today, and we can make it so through the employment of our ever-increasing knowledge, especially through technology.<sup>3</sup> This has been incorporated into our belief system since the Enlightenment, and architecture is integral to Progress's aim of improving society. This belief in an inevitable trajectory towards a utopia is, essentially, what modernism is primarily concerned with. Although science fiction isn't necessarily about imagining future utopias – dystopias are arguably more fashionable these days – it does share with architecture the desire to project into the future and construct imaginary worlds.

I would argue that this envisioning of speculative futures is one of architects' obligations to society. If the future worlds we create are only possible through what we are able to imagine, then it's important we imagine alternatives that contribute to the stories we tell ourselves and each other and that embed themselves in our individual and collective conscience.

While architects are very good at speculating what the future could look like, and the technicalities of how it might be physically constructed, they are less good at understanding how the society will work politically and socially, how people will inhabit that world and how they will relate to each other. This is where writers are able to contribute, particularly of the science fiction genre, as they are much more concerned with making a credible and coherent narrative within and about their envisioned world. And this is what Ken was tasked with doing with the group, before going on to write a short story set in the students' architecture.

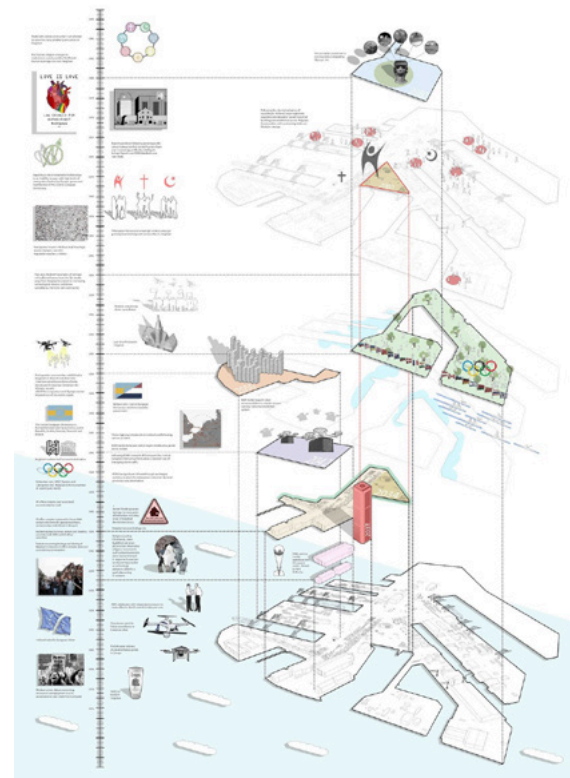


Figure 1. Heijplaat 2086 (Early Days of a Better Nation studio group)

### Scenario Building

The first stage of the project included a week's field trip to Rotterdam, where we mapped out the suburb of Heijplaat (Figure 1). This was followed by a group project to masterplan the area for the year 2086. The basis of this masterplan was the creation of a future-oriented scenario which was created with Ken during a day-long workshop. Ken's role was to give parameters for designing a future scenario, by explaining how he

goes about thinking about it when writing his fiction. He warned at the outset the dangers of taking the two extreme approaches: those of taking a 'straight line extrapolation' of trends from today into the future; and of the 'blank canvas' approach that provides no parameters for design and is simply daydreaming. He also described how some changes between now and 70 years hence are already 'baked in'. For example, even if all industrial carbon dioxide emissions stopped now, the global temperature will continue to rise for several decades, as will sea levels.

Ken also established a future political system that he had used as the basis of many of his novels – what he called 'Socialism with European characteristics' – an economic system similar to China's, but with the political heritage of civil liberties and democratic rights that people in the present advanced capitalist countries are proud of and would (he assumed) be most reluctant to give up. He projected a future reunited Europe as a single federation called the European Democracy (ED), which optimistically, or perhaps utopically, adopted the best characteristics of a planned economy and advanced capitalism. On this basis, the students came up with ideas about how their particular community in Heijplaat would work economically, culturally, and socially.

The group developed their ideas from Ken's, and because he had pre-established the 'ground rules', they were accepted as given, and their research of the area and region was used to refine the brief more specifically. This allowed them to move on more quickly than usual to establish a future history of the area – a 'timeline' with specific events for what happens between now and then. For example, they suggested that in 2052, Rotterdam would hold the first 'Cyberlympics' – an Olympics for prosthetically enhanced post-humans that replaces both the Olympics and Paralympics. Hosting an Olympic Games was considered to still be able to generate a lot of architecture.

Another theme the students wanted to explore was the identity of the site. The garden village of Heijplaat was designed by Hermann Ambrosius Jan Baanders in 1913 as a serious attempt to provide decent housing and community facilities for dockworkers. Today it is a desirable and experimental place to live with concept houses, a sustainable rhetoric and a reputation for resilience and independence. This was projected into the future. The group decided that due to a protest of

2032 concerning its heritage and identity, the village was decreed a conservation area and had not changed significantly since then. In 2086, it remains an example of a sustainability thinking they thought would save the world at that time. The identity of the site is very much linked with the historical dock area surrounding it, which is today concerned with storing and distributing goods to the immediate area of Rotterdam and inland to central Europe. It was projected that this will remain a distribution centre, but become increasingly driven by robots, with bottom-up just-in-time delivery algorithms and drone hardware.

From the collective scenario and masterplan, each student then developed their own brief to design a building that was a consequence of the future society of Heijplaat. One repercussion of a shared group scenario was a natural inclination to continue to work together developing briefs and buildings that linked to each other. For example, a future storage/recycling/museum centre linked to a future version of an old people's home, which linked to a funeral parlour and columbarium. These linked building projects developed synergies so that when students worked together, their projects were stronger for the extra questioning, constraints and opportunities.

It was important that they considered themselves designing, or envisioning, a future, and not predicting it. One of the architects we visited while in Rotterdam was Jaakko van 't Spijker who master planned areas of Rotterdam. Speaking of his work at the Erasmus University campus, he stated that 'you have to give people something to aim for.' The vision itself was transformative and the images and narrative have a potent agency to encourage the client body to make it happen. The early visionary projects of the early avant garde such as Le Corbusier, Mies van der Rohe, and the Constructivists, may not have been constructed, but the images and narrative surrounding them worked their way into the collective consciousness of architects and the public, and influenced the environment of future projects. Science Fiction works in a similar way, especially when translated to the cinema. Images from the classic films such as Star Wars, Star Trek, Blade Runner, Mad Max, The Matrix, and so on, have all become part of our collective conscience and cultural reference points for what can be made possible in the future. To reiterate: no future can be built without it first having been imagined.



Figure 2. Ageing in Heijplaat (Alice Ravenhill)

But the real advantage of using a Science Fiction approach was what Darko Suvin adapted from the Russian Formalist notion of ‘making strange’ and identified as ‘cognitive estrangement’.<sup>4</sup> Amy Butt has nicely described this ‘*utopian potential of reading SF; for making the familiar strange, for presenting the present as if it were past, for revealing fears about the future, for provoking radical imagination, and for re-making the world we inhabit.*’<sup>5</sup> This accurately describes the benefits the students gained from working with a Sci-Fi novelist: after co-producing the future scenario and then adapting it for their own, they all inhabited this future as if it were the present, and made the unfamiliar into the everyday. This enabled them to then reflect on the actual present day with a much greater critical perspective and question the norm and avoid clichés more easily. A new and different everyday became more possible.

Furthermore, introducing the idea of the post-human encouraged the students to not only question what it is to be human, and our relationship with architecture here and now, but enabled a post-human future to happen by seeding it in our conscience.



Figure 3. Collaboratorium (Dan Sprawson)

### Thinking Through Drawing

To address the second problem related to ‘chasing the narrative’ – that of thinking through talking rather than through drawing or modelling – I asked the students to represent their projects as a comic book. Cartooning and Science Fiction often work together in the form of graphic novels, but despite one or two studies in terms of architectural depiction and design, such as that by Luis Miguel Lus Arana,<sup>6</sup> it remains largely understudied.

The preference to rely on words rather than drawings, I think, comes from the students’ ‘comfort zone’ – they are unwilling to commit to drawing from the start because it is harder work and more risky. They think they can work it out in words and ideas, and ‘draw it up’ just before the review, rather than ‘waste time’ on committing to drawing the proposals early on. This is essentially a disjunction between the research brief building and design phases. Instead, I wanted the group to make proposals from the beginning of the design process, including during the brief development. Comic books were a medium to encourage them to overcome these two risks, bridge the divide between the research



and design phases, and practice beyond their 'comfort zone'. Comic books can be quick sketches, not taken too seriously, and used to communicate a message visually rather than textually.

As the students were clearly apprehensive about this requirement, I invited comic book artist Alison Sampson, who had previously practised for 25 years as an architect, to give a lecture on how the two disciplines were related in terms of narrative, spatial depiction, and human inhabitation, as well as presentation and communication. She then ran a day-long structured workshop that showed the students how to produce a simple comic book based on their brief. This encouraged them to commit quickly and early and not worry too much about the results.

After their site research and scenario building, the students did not write a brief, but used comic sketches to draw it instead, starting with 'fragments' of how spaces were used by both humans and post-humans. This again offered a critical distance from normative planning and a brief posed as a 'problem' that required design to act as a solution. It instead offered a 'research-by-design' approach: the students were using design to research and develop the proposal from the outset, using findings from their fragment drawings to develop an understanding of, and inform the actual brief of the building – a speculative approach to architecture. Instead of seeing the development of a brief as a separate phase of the design process, it was used as integral to the design, and a way in to early propositioning, encouraging a smoother transition from brief building to design proposal phases – or not even seeing them as distinct phases.

## Evaluation

Using narrative to generate an architecture is a common methodological device, from Nigel Coates and NATO at the RCA in the 1980s, to C.J. Lim at the Bartlett today. However, my studio was not aiming to develop an architecture of a pre-determined narrative, but to develop the narrative and the architecture together, as a speculative way of organising society, to design a future that can be something to aim for.

## Reflecting on the process and outcome

### *What did not work:*

There was little time to explore the 'Idea of Progress', and its relationship to architecture in the past, present and future. This would have been linked to the idea of Utopia and a post-human architecture. This could have led to more of a critique of today's architecture and society.

Mindful of the ARB criteria, I was too conservative and should have encouraged the students be more speculative and less terrestrial. The main critique of the weaker projects was actually that they were too much of today. More should certainly have been made of the potential of post-humanism.

While the scenario building at the outset was successful, the development of Ken's story was too separate from the development of the masterplan and architecture. Again, this was a consequence of insufficient time.

### *What did work:*

The students continued to work as a group throughout the project, and several synergies developed between their individual projects based on the original scenario and masterplan.

The students committed far earlier to a brief and design proposal, and while they didn't fully embrace the continuation of a single design phase, it was much less disparate.

It was noticeable how much more visual their presentations were at their reviews and in their portfolios. They depended less on words and more on visuals.

One should be cautious about generalising too much from a single semester pilot studio. However, given more time and courage, even if the studio leader is not a reader of Science Fiction graphic novels him- or herself, (as this one wasn't!) there seems to be much potential in using the above approach, both pedagogically and theoretically.



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# Connecting the Conceptual with Reality. Analysis of a Connected Pedagogical Methodology of Material Research and Design Application.

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## **ABSTRACT**

This paper discusses the working methods developed over the past four years at Oxford Brookes University with Year 3 undergraduate students of Interior Architecture.

Historically, throughout the three year Interior Architecture degree, the programme has distinguished Design and Technology as different subjects within the curriculum. This is expressed as different academic Modules, with specific learning outcomes, taught by different tutors in both lectures and within the design studio. The implication of this model leads students to engage in learning about these subjects in separation, compartmentalising technical knowledge aside from creative, conceptual and spatial ideas. Over the past 5 years we have been restructuring the relationship between Design and Technology through a module called Material Research and Design. This has had significant improvements to support the nature and quality of the students' design work better and therefore improve their learning experience. The nature of the students' coursework is experimental, playful and analytical focusing on material properties to enable the application of these into 1:1 scaled prototypes.

**KEYWORDS** design and technology, material performance, interior architecture, curriculum design, assessment criteria.

The majority of students on the undergraduate programmes at the School of Architecture at Oxford Brookes University have a creative background in Arts. Creativity, critical lateral thinking, rich mixed media representation and exploration in physical 3D making are foundational pillars within the pedagogical structure of the degree programme. Design studio projects explore concepts of space, form, function and critically question the role of design and the designer;

society and culture; academia and practice. Students are offered a learning environment which is fertile and receptive of trans-disciplinary approaches as methods to critically question the domain of architecture and interior architecture.

To sustain and develop this creative and fertile learning environment, project briefs encourage independence and self-expression. Students are given the freedom to engage critically in conceptualising

projects, to define their functional programmes, social-cultural engagement of users, the environmental and physical context, form and material definitions. The freedom offered to students can be overwhelming and therefore requires intellectual rigour and maturity. These are important facets of developing as a designer as the plethora of options available to any design project is limitless. Successful designers are those that are able to allow their imaginations freedom, with the understanding that following a structured process will begin to focus attention towards feasible options, pulling together workable outcomes to a successful resolution. Within this context, students' design propositions are innovative and ambitious, offering new ways of understanding spatial and material issues.

Teachers become critical friends, advising and guiding the process. As the pedagogical model is centred on the student and their methods of working, the hierarchy between teacher and student dissolves. Teachers support the students by sharing knowledge and experience, guiding the students in taking their own decisions. In addition, the design studio is a fundamental laboratory to contextualise the students' development. Through the peer to peer exposure, the majority of the learning happens here. Students learn through the successful and less successful examples of their colleagues. The exposure to group tutorials, crits, by proximity and by chance informs the quality and culture of practice. Indirectly they are learning multiple methodologies, working ethics, collaborative ideas, methods of representation and other key aspects of being a professional designer. Students become empowered, mature and confident, able to apply their learning into coherent, logical proposals well prepared for future creative professional environments. If a studio culture is well facilitated, it is quite likely that the outcome is at the cutting edge of architectural ideas. Students "learn how to design largely by doing it, rather than by studying it or analysing it".<sup>1</sup>

The way designers think has been studied and discussed by several theorists (Lawson, 1980; Schön, 1982; Rowe, 1987; Buchanan, 1992; Nigel, 2011) however, it is not the intention of this paper to discuss these findings. I would like to draw upon Bryan Lawson's research presented in his book: "How Designers Think".<sup>2</sup> He discusses different types of thinking and describes reasoning and imaging as probably the most important to designers. "Reasoning

is considered purposive and directed towards a particular conclusion [logic, problem solving and concept formation] whilst imaging, on the other hand, the individual is said to draw from his or her own experience, combining material in a relatively unstructured and perhaps aimless way.....The control and combination of rational and imaginative thought is one of the designer's most important skills".<sup>3</sup>In teaching design, it is relevant to acknowledge these two ways of thinking as students have to learn to interplay with their own rationality and creativity. There is no specific methodology to design, yet students need to acquire knowledge and experience.

One of the fundamentally important skills for being a good designer relies on one's ability to provide different solutions to problems and to be able to explore the feasibility of these options. This ability of designers to run different lines of both conceptual and practical thought and to work at varying scales of exploration simultaneously is what distinguishes a designer. Boyer and Mitgang quote Pier Luigi Nervi, who said, "a good architect is someone capable of seeing the main problems of a design, capable of examining with serenity the various possible solutions, and who finally has a thorough grasp of the technical means to accomplish the projects".<sup>4</sup>

Lawson concludes in his research that "good designers are able to sustain several 'conversations' with their drawings, each with slightly different terms of reference, without worrying that the whole does not make sense".<sup>5</sup> He further explains how this ability "to live with uncertainty" is what enables a designer to hold onto an 'idea' and explore it, almost ruthlessly, until a feasible solution has been found. One of the key fundamental ways in which students can learn these abilities is to initially provide them with a framework to allow them to begin to test and play with the different layers of knowledge. Students need to develop a conceptual understanding of the operation and to be able to articulate it.

The case study presented in this paper discusses the pedagogical methodologies applied to Year 3 students on the BA Interior Architecture from 2012 – 2017. This recurring group of 20-24, students have followed a curriculum of modules shared with students on the BA Architecture course, with specific modules in Interior Architecture. The module in discussion, "Material Research and Design" is a module focusing only on

students in the Interior Architectural programme. A prerequisite for this module is the Year 2 technology module, [shared with students in the architectural programme] which delivers factual technical knowledge of buildings. Students arriving into Year 3 have a fragmented understanding between conceptual thinking (design) and its physical – technical realisation (technology).

The brief set for the students is assessed only by the learning outcomes of the Material Research and Design module and is therefore a standalone design project. By comparison, in the Architectural programme, the students' projects are assessed by two modules: Design and Technology.

It is impossible to disassociate the idea of a proposal in architecture from the physical expression of this idea, even if just through the medium of representation. The terms utilised are misleading: Design is vague and it is used in different ways. It can be a noun, a verb or an adjective. It is referred to as a process as well as an end product. It is not specific to Architecture, Interiors, Product Design or other Creative Arts. In this context, I would like to refer to design as a process. Pedagogically we are enabling students to engage in the process of formulating propositions based on valid methodological approaches. In essence, the processes entail enquiry, research, synthesis, validation and conclusion. Technology here is defined as knowledge gained through making, is the process of creation and production.<sup>6</sup> This is the common definition of tacit knowledge, which is knowledge learned through tactile and empirical experience. This definition emphasises the alliance of technology with architectural design and its execution. After years of practice, professionals see no distinction between the two fields, not one which can be separated into content and process or theory and practice.

Similar historic discussions have shaped our contemporary context. John Ruskin (1819–1900) and Gottfried Semper (1803–1879) advocated for the truth to materials, honesty to construction and the emphasis on meaning and function in materials. This raises questions about the role of the architectural designers and their positioning towards technology. Through our industrialised and efficient world the architect is losing their proximity to the workshop and becoming an information manager behind the computer. However, Renzo Piano stated, “An architect must be a craftsman,

someone who does not separate the work of the mind from the work of the hand”. Frank Barkow (2013), as keynote speaker in the “Prototyping Architecture 2013” conference spoke that “design follows technology – Identifying and harnessing new technologies coupled with curiosity and imagination reinvigorates a process of making and invention”.<sup>7</sup> In a new era of digital craft, which has already begun, the role of the architectural designer will be re-defined.



Figure 1. Extract from Jennifer Benton's Design Report 2016 – Echoed Light (research material – light)

### Proposal for an integrated methodology:

I suggest three successive phases that could inspire students to integrate technological thinking: The first requires an *exploration of materiality* without a particular goal. The students are encouraged to befriend a material of their choice, to research and become knowledgeable in this material by looking at the origins, sources, processes of manipulations, multidisciplinary applications, precedents and importantly, to manipulate and test the material themselves. The intended outcome is for the designer to start to build up a deeper experiential knowledge

of materials. By manipulating and designing small fragments, they get an intrinsic knowledge of the potentials and limitations. In the future, when a design problem arises, the designer will access this reservoir of knowledge.



Figure 2. Extract from Jennifer Benton's Design Report 2016 – Manipulation, control and exploration of light.

The second phase is concerned with *exploration and enquiry*: Once the design problem is more advanced, a process of enquiry begins to filter through the project. What possible solution can I offer to this problem? How can this be constructed? What is this made of? Which project is similar? Etc. This level of investigation provides a rich fertilisation to the project. It allows the designer to become flexible and to find the best solution to the problem. It is better for there not to be a design of buildings as such, but an array of possible opportunities and proposals. A tendency of students is to hold onto their schemes as long as possible, ignoring the design process as a journey of exploration and investigation. The interesting parts of this phase are the research questions which arise. The questions are many times richer than the answers. They provide the spine of research which enables the project to excel. This is “learning through empirical experience and design as reflection and research on action”.<sup>8</sup>

And finally the third phase is when technology and design are expressed through their relevant importance

in the project. In the case presented in this paper, the students' projects culminate into a *real 1:1 prototype*. Up until this phase, components were fragmented, held together by the working framework, through the idea and the designer's mind. It is important that emphasis is given equally to the creative and scientific insights. “An intimate relationship between technical knowledge and design conception”<sup>9</sup> is required. It is fundamental that designers get real experience about buildings. Students need to have contact with the real material and its process by making real projects, building prototypes, going to relevant site visits, factory visits and being in contact with the physical process of making architecture. This is essential to substantiate the designer's knowledge. For technology and design to become part of the same conversation, the designer must have experience of the real in order to express this in concept. The process of drawings and computer modelling do not contain sufficient experiential knowledge about technology, they are conceptual representations, suitable for when the designer already has the real experience.

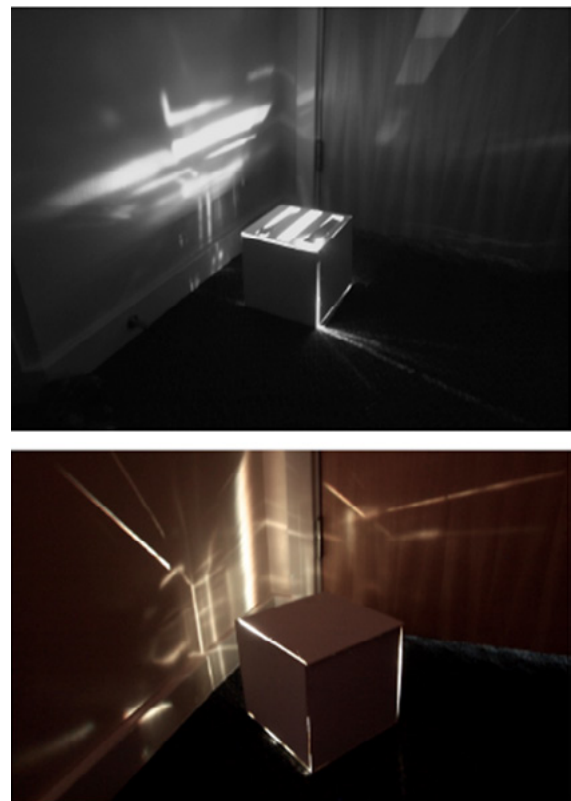


Figure 3. Extract from Jennifer Benton's Design Report 2016 – Exploration of light projections at larger scales.



If technological knowledge is introduced as an addition to the design process, as a parallel analysis of the design project, then the result is likely to be a reflection of this and be fragmented. If it evolves as an exploration through material investigation at the early stage of the design concept, followed later by a creative exploratory enquiry into construction, structures and environment, reiterating different possibilities followed by being in contact with real projects and examples, the final outcome is naturally more integrated.

### Case Study

The coursework in discussion is set in a design studio, running in parallel to the main design project of the final year of the undergraduate degree. This component of the programme responds to the learning outcomes set within the three-year programme in Interior Architecture and focuses on the technology strand.

#### *Phase 1 – Material Research and Design Exploration Study*

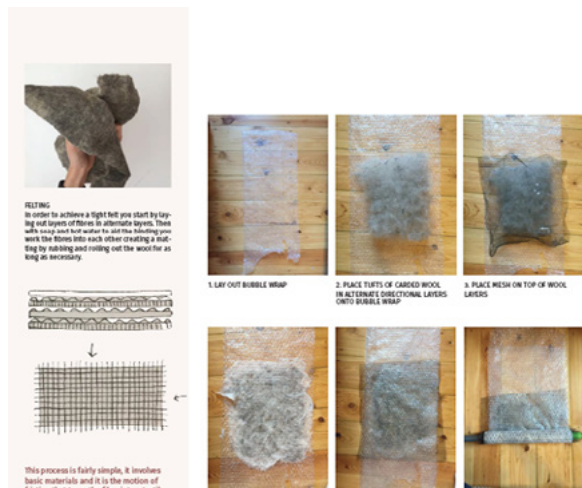


Figure. 4. Extract from Molly Ward's Design Report 2017 – Acquiring knowledge from making and testing.

Students are given four weeks to engage playfully with a material. Without any particular aim, the purpose of the Material Research assignment is to engage with materiality (making, testing) and to promote an enquiry into design through material knowledge. Students are encouraged to be experimental, innovative and to show a thorough

understanding of the material and possible applications, methods of control, effects and technologies. This phase of the research underpins the later design strategies and proposals.

The starting point should be on a material of the students' choice. Typically students chose latex, fabric, concrete, wood, resin, paper, etc. All of these are relatively easy to work with and easily accessible. Depending on how students manipulate the materials, a variety of qualities emerge from the processes.

The work submitted should demonstrate knowledge acquired through the research. Before being able to design with the material there needs to be thorough knowledge of the properties and qualities, limitations and opportunities. In many respects the material research should demonstrate innovative and ambitious means of understanding and applying materials. The work shall read as experimental as well as analytical. Students are encouraged to be free in their choices, yet overall they are required to be observant and conclusive about the experimentations carried out, being observant to the possible questions that arise from the work. The questions raised form a fundamental thread of research, investigation and development.

In developing the design phase students are required to take this material research forward and explore possible ways of integrating this new knowledge into the design application phase. It is inevitable that the design process will shift and change, what is important in this module is to maintain a level of enquiry into the chosen material and persist until the process is able to transform both technically and conceptually the material into an elegant design proposal. This way they are letting the material properties determine the design.

The design exploration study is a documented investigation into design solutions, which explores the possible ways you can propose solutions to the material of research. Given the large amount of possible solutions to realise a proposal, the exploration study is an investigative exercise in defining the best design solutions. This is therefore the research framework constructed from material enquiry, design precedents, analysis, aims and objectives.

At this stage the design process is still unexplored and therefore this phase of the module asks to investigate possible solutions to design ideas. The aim of this assignment is to prompt design issues and

solutions, and to eventually formulate a design that is empowered by technology (how it is made). This phase is about process and enquiry – focusing on showing an ability to identify problems and to test different solutions yet maintaining the essence of a design concept.



Figure 5. Extract from Molly Ward's Design Report 2017 – Defining initial forms and behaviours depending on different experimental techniques.



Figure 6. Extract from Molly Ward's Design Report 2017 – Exploring behaviour through sewing techniques.

Looking at precedents is fundamentally important. Cross referencing with other projects, contextualises the work within the practice of the discipline and is also the way in which one connects to the larger theoretical themes. By looking at existing systems and executed design solutions the student is able to learn from other projects. The important aspect is for the student to learn how to apply these principles into their own project; analysing and learning from the existing projects and to reflect these in their own designs.

Once identified with the aims, constraints and opportunities of the design concept, the research is able to explore different technical iterations. As there are various solutions to an issue, the researcher should demonstrate a range of experimentations to define the most suitable solutions to the constraints and opportunities identified.

After eight weeks, students are required to compile a document containing the research gathered, including analysis and relationships to precedent projects. Thus demonstrating the research framework with aims and objectives, which will lead them to propose the design and fabrication of a 1:1 prototype in the spatial context.

### Phase 2 - Final Design & Prototype

The final phase of the module; an additional six weeks, focusses on both the design development process as well as the execution of the final prototype. In executing a successful prototype the student would have been able to clearly take control over the knowledge of the material, the design of the object and the fabrication process.

There is a fundamental relationship in the final object and the design process behind. Students are therefore expected to build a 1:1 scaled object of approximately 1m × 1m following the research undertaken during the year. The level of professional resolution and craftsmanship is one of the assessment criteria. The proposal must be clearly shown in the context on their spatial design proposal. Clear graphical illustrations, renders, plans and sections must show the proposal within the spatial context.

The final submission contains:

- A book bringing all the work together, focused and edited from the Material Research and Design Exploration Study carried out earlier in the module.
- Descriptions of the process, research, analysis,

design intents, etc.

- Explicit strategies and stages of development including the fabrication of prototypes.
- Inclusion of Sketches, images, material samples, various physical experimentations, videos, research texts, extracts from websites and all relevant data which illustrate the research, testing and experimentation.
- Credit is given for a clear and concise presentation, beautifully presented and edited. There is no maximum or minimum of pages although previous students have produced books with between 100 – 180 pages on square A3.
- Final object proposal represented in a spatial context, expressing material qualities, light, shadows, functional uses and applications, etc. These are scaled at 1:20 through photomontages, computer and hand renderings.
- A Prototype scaled 1:1 Fabricated by the student.

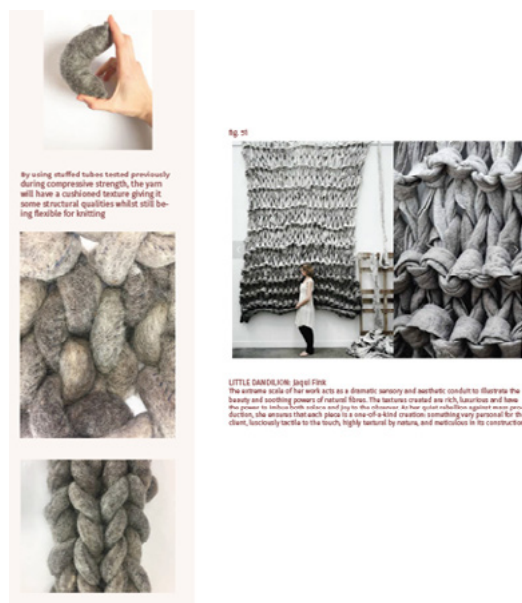


Figure 7. Extract from Molly Ward's Design Report 2017 - Identifying possible up-scaling analysis with precedent form examples.

### Assessment of the Design and Prototype Submission

The assessment criteria is an essential contract in the learning and teaching engagement. Clarity on what defines the nature, extent and level of work is very important. In our course we publish the assessment criteria before the start of the module and regularly make reference to this during the course. Students

become familiar with the requirements and are able to strategically direct their coursework to meet with these expected outcomes. The grids are broken down in criteria aligned with the module's learning outcomes, describing the levels of Fail, Pass, Fair, Good, Distinction and High Distinction. During the module in discussion, there are two assessments: Design Exploration Study (week 4) and Design and Prototype (week 12). Described below is the last assessment following the High Distinction category.

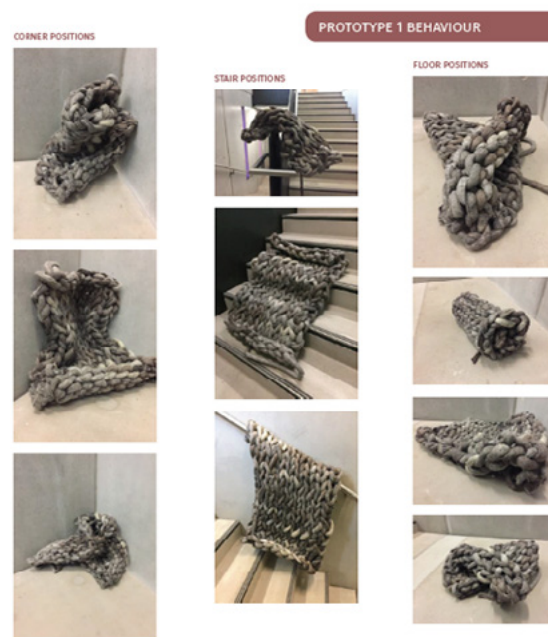


Figure 8. Extract from Molly Ward's Design Report 2017. Prototype indicating behaviour as a large object interacting and playing with architectural features.

### Integration of Material Knowledge & Design

Demonstrates an ability to compile a focused and comprehensive design project integrating innovative material knowledge into a resolved design proposal with a high degree of originality.

### Design Analysis

Applies the material knowledge through an in depth, innovative and creative process of investigation outlining design qualities, weaknesses and strengths through experimentation and testing.

### Prototype Resolution

Able to a high level of accuracy execute the design intentions into a scaled physical prototype fabricated in the research material and process to a scale of 1:1/2/5/10.

### Physical Context

Demonstrates a clear understanding of a physical context of the design proposal and is able to formulate design ideas which reflects this knowledge through thorough investigation and analysis.

### Technical Design Process

Shows an original and imaginative ability to use multiple medias to demonstrate multiple explorations of different technical design solutions of the material elements, connections and spatial occupation. (Functional and aesthetic)

### Summary

Fragmented teaching methods of Design and Technology can lead only to a fragmented design response from students. In order to develop young creative minds fully and link design and technology intrinsically, a coherent methodology of integration between the two facets is essential. It is the role of the teacher to develop student creativity overlaid with suitable material responses. The pedagogical approach to this is threefold:

Starting with exploration; allowing free reign and openness of thought to creativity and imagination.

The second phase is rigorous enquiry; developing an understanding of discovery materiality which then informs the third stage.

The output of expression following a rigorous engagement with material.

Making at 1:1 and engaging in the processes of construction allows the designer to be better in tune with technological constraints and design opportunities. In order to fully embrace materiality, students must learn by doing. They must build models, test materials, experiment and develop a strong process of exploration needed to fully engage and connect with the physical world. In allowing this process to happen, design is not restricted, the designer is allowed to temporarily live with uncertainty, and opening up many possibilities before a rigorous understanding of materiality provides its own guidelines towards successful outcomes.

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# Extended Individualities. Alternative modes of collectivity in design studio education.

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## ABSTRACT

This paper examines the architectural design studio's role in exploring beyond the dichotomy of designing collectively or individually, through the study of three design studio cases that relocate the architect-individual in a relational context through their peculiar pedagogic settings. The search for alternative authorial modes in architectural pedagogy, which is here referred to as "extended individuality", will be discussed critically with the intention to speculate on the potential openings in architectural education and production.

**KEYWORDS** individuality, collectivity, authorship, pedagogy, design studio

## Collectivity and/or individuality

Collectivity has been essential to architectural culture since its early establishment. Ranging from charrette teams to trans-disciplinary groups, collective practices have preserved their popularity as a resort to boost creativity, diversity, and resourcefulness in designing. Similarly, in architectural education, groups and teamwork are still prevalent modes of operating, particularly in design studios that seek an alternative to the solo-architect model working in isolation.

Although they provide an alternative to the largely problematised god-like, singular, heroic figure-of-the-author, certain practices of collectivity tend to produce consequences that could be just as problematic. When collectivity is packaged into closed, hierarchical or rigidified consensus-clusters, individual peculiarities that constitute them tend to erode, potentials generated by criticism and conflicts are put at risk. Obligations to comply and agree may diminish the multiplicity of voices, and pull the design towards an average.

Meanwhile, techno-social and philosophical affordances of 21<sup>st</sup> century fuelled debates on alternative conceptions individuality and authorship. Emerging communication and production platforms mobilised the individual beyond the isolated specialist or the blended-in anonymous. Questioning the boundaries and capabilities of the "self" inspired new modes of operating in a more socially engaged, relational, reflexive manner without losing one's voice (such as github, creative commons, BIM etc.)

With the influence of changing information, communication and design medium, reverberations of this paradigm shift have become visible in the field of architectural education particularly from the 1990s onwards. An increasing number of design studios have been executing pedagogical experiments on re-positioning the individual author in engagement with peers, partners, related parties, negotiating with content, information sets, tools, software, etc.

This paper focuses on the architectural design studio's role in exploring potentials beyond the



dichotomy of collective and individual by studying the peculiar pedagogic settings of three design studio cases that relocate the architect-individual in a relational context. Through this investigation, design studio pedagogies that challenge protocols of collaboration, conventions of singular authorship and promote other paths of co-production, mediation, negotiation and designing in a relational context, referred to as “extended individuality”, will be investigated and discussed.

### Pedagogies of “extended individuality”

It wouldn't be wrong to claim that working modes in the architectural design studio are still mainly divided between working individually or in groups/teams. In the context of this paper, the term “extended individuality” is proposed to suggest and explore the states of authoring in design that exceeds the typical diametric relationship between the two.

The term doesn't denote unravelling the categories of individual or group, but to critically and creatively expand the spectrum of operational possibilities to include the possibilities between and beyond them. It implies a renunciation from complete autonomy and isolation in decision-making, while preserving one's peculiar personal choices and values. At the same time, it suggests embracing engagement, collaboration, multiplicity, flexibility, inclusivity etc. in design without falling into the conventional categories such as group or teamwork.

In order to discuss the correspondence of such articulations in the pedagogical context, three experimental cases from different geographies dating between 1988 and 2011, have been selected for a brief survey. These cases are chosen due to their shared aim to search for alternative authorship protocols, urge students to be connected and engaged while challenging conventional formations of collectivity through a wide range of tactics, tools, technologies and content. The material related to their pedagogic intentions and settings are retrieved differently; first through its publications, second as an observer and the last through direct participation as the tutor. The inquiry will not focus particularly on the contextual differences of these cases or the specific design outcomes, but rather how their pedagogical agenda, use of tools, protocols and the design-learning environment are set up.

These pedagogic cases are: “Phase(x)” from Bits and Spaces at ETH Zurich (1996-1998), “CBIP-Integrated Design Studio” at GSAPP New York (2010), “Karaköy2” at Istanbul Technical University Faculty of Architecture (2011).

### Bits and Spaces

Starting with the 1980s, the evolution of network culture and mobilisation of knowledge made digitally driven information accessible to larger crowds simultaneously. During the heyday of CAAD(Computer Aided Architectural Design) technologies in architecture and education, Maia Engeli carried out a series of design studios and elective courses in ETH from 1988 until 1998, which are later published in the book “Bits and Spaces”<sup>1</sup> (Figure 1), also made into the format of a website<sup>2</sup> and CD.

In this series of experiments, through the application of a number of pioneering CAAD tools and newly emerging networked working environments, classic authorship notions were challenged through various pedagogical experiments. With the introduction of virtual communication and design environments, databases and networks, possibilities of interaction and collaboration expended the limits of physical space of the studio.

One of the many examples from that series of experiments, *Phase(x)* was carried out between 1996 and 1998.



Figure 1. Interphases of the website for Phase(x) (Engeli, 2001)

“Phase(x)<sup>3</sup> teaches the principles of using the computer in architectural design through phases where new CAAD concepts are introduced and applied and students successively build on the work of others. The database-driven collaborative teaching environment allows students to benefit from the continual feedback of their peers, and analyses of the resulting work process provide insight into the mechanisms of a networked society.”

The brief problematises the dominance of individual authorship in the traditional cultural model, and the influences between different authors that are often unclear and debatable. Whereas in Phase(x); “the works themselves are the primary thread that is followed and the contribution of every author involved in the process can clearly be shown. In Phase(x) the exchange of ideas is not only intensified but also made transparent” (See Figure 5).

Engeli (2001) mentions the exotic position of 1990s CAAD tools in architectural education and practice with the emergence of the Internet allowing the person-to-person and office-to-office exchange of data and information, yet adds the short-comings of the technologies at hand at the time. *“The only problem we see in dealing too much with practical implementation issues is that not enough time remains for critical discourse and the search for fundamentally new solutions. CAAD is still in many aspects in an analogous stage to motorised horse carriages a century ago; although drawing production and model-making have been translated into the electronic realm, independent and new technologies to support design are only emerging.”*

She continues with the difficulty of shared authorship not allowing singular attribution of individual work; because each project represents a collection of individual contributions, it may still be possible to identify the contributions of each person at the end of the process, although nobody can claim single authorship of the result. While the possibility of itself is interesting, many people consider the loss of single authorship as a break with tradition, with associated risks. Engeli (2001) adds that due to this risk of perception of loss of individuality, the shared authorship concept must offer tangible improvements in terms of quality and efficiency over the present situation in order to gain acceptance

### CBIP-Integrated Design Studio

Columbia Building Intelligence Project (C-BIP) & The Integrated Design Studio (IDS) was carried out in New York, Columbia University GSAPP in 2010, as part of an experimental three-year pilot project that explores “new forms of technology-enabled collaboration within and between the various sectors of the architecture, engineering, and construction industry.”<sup>4</sup>

The studio developed by Laura Kurgan, Scott Marble and David Benjamin was entitled “Energy + Adaptation”, and proposed to design adaptation strategies to enhance the quality of urban life while reducing energy consumption in existing buildings in New York City by %30, as the city authorities envisioned for 2030.

Neglecting architectural education’s conventional “single critic, single student, single project” model, the studio’s research interest leaned on embracing new modes of collectivity and design collaboration in education, for its increasing potentials in architecture’s role in the total process of realising a project.

With this concern, besides other research interests, the studio attended to experiment with a “design-and-release” model as a mode of organisation, and with “open source” as a cumulative and communicational platform that might better embrace the design potentials embedded in the complexity of projects.

The studio brief launched following questions on architectural design:

*“Can open source design method pioneered for software development be applied to or reformulated for architectural design? Could modules of buildings and 3D files be “checked out,” revised, and “checked in” by different architects, fabricators, and contractors over time durations that exceed a single project? If complex building components could be designed, documented, and released into a broad architectural community, how would authorship and intellectual property be handled? Might an open source model start to change the one-off nature of buildings and reduce inefficiencies in the construction industry?”<sup>5</sup>*

To embrace the potentials of open source in the studio’s workflow, the “design-and-release” model was located at the core of the organisational scheme, in coordination with the studio’s research progress into energy mitigation in existing buildings. In a highly integrated model, 36 students worked interactively on

specific parts of a larger problem in collaboration with peers, critics, consultants and experts through an array of integrative, simulative, digital and physical design and communication tools (Figure 2).

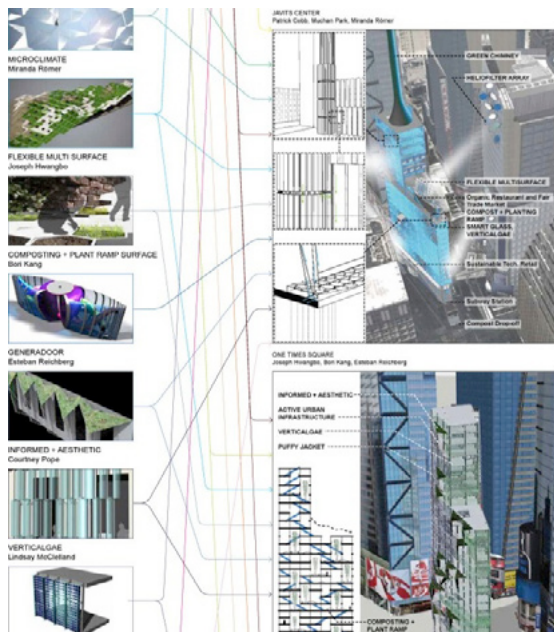


Figure 2. Charts depicting relations between elements and strategies, and their use in final proposals (CBIP-IDS)

Each student was responsible for designing a generic building component to reduce energy consumption in existing buildings, using CATIA software and document it with an instruction manual, and then release it to the open source library to make it available as “a tangible research product that others can download, re-configure, and utilise”. In the next step, students were asked to form teams to collectively develop a “Building Strategy” for specific buildings in NYC. To achieve that, teams were requested to pick, use, adjust, test and re-use the available components in the open source library which were again produced by students individually (See Figure 5).

Meanwhile, if they had any feedback or modification requests they would send them to the original author who is solely authorised to make changes to the component. The suggested changes would be considered by the author of the component, refined, re-documented and released back to the library in its updated version, available for future use.

In progress, collectivity and interaction was enabled by the use of design and communication platforms such as Building Information Modelling

(BIM), Integrated Project Delivery (IPD) for legal structure, CATIA for the design, parametric modelling and fabrication, and other software for managing complex information, environmental data, simulating building performance etc.

In the process, components and building adaptation strategies were rigorously tested through digital building simulations or physically fabricated mock-ups, presented, discussed and revised in above mentioned platforms as well as face-to-face dialogues and studio reviews. “By the end of the semester, the IDS offered dozens of individual design components, as well as several more comprehensive design strategies, that were both flexible and re-usable.”<sup>6</sup>

The “design-and-release” model endorsed a critical break from the typical studio in which students produce their designs in spatial and mental isolation. With the help of sample building elements, wireframe BIM models and complementary open source software, all students become capable of experimenting with and suggesting specific updates to each component, allowing each author to continuously improve her components’ design without refraining it from the use of others.

Concurrent and common use of design elements, allowed the development of complex architectural ideas with variation and feedback in a progressive rather than competitive environment, which added up to increase the total quality of the design library for such a purpose.

However, the sophisticated use of open source didn’t completely remove the conflicts over the ownership and rights on the designed elements. Because the protocol only authorised individual authors whether or not to apply the feedback or allow suggested changes in the use of their elements, it was observed that harsh negotiations took place between the authors and groups who suggest changes, and not all ended up with agreements.

### Karaköyx2

A case from the first year design studio at Istanbul Technical University’s Faculty of Architecture, “Karaköyx2”,<sup>7</sup> was a six week long design game aimed to study, understand and intervene into a historic district of Istanbul, Karaköy, at the verge of massive urban transformations and under-used by the local population due to infrastructural and social decay.



The project was mainly designed as an experiment<sup>8</sup> to facilitate and monitor different modes of collective design and alternative modes of authorship in the architectural design studio, while reading a complex urban fabric, understanding its dynamics, developing architectural programs and proposing spatial interventions for this area.

The project was structured on a platform (physically drawn on the ground of the studio) where each student was given a 50x50m square (represented as 50x50cm squares at 1:100 scale), in which they performed their architectural interventions individually, yet in compulsory negotiation with neighbouring squares (Figure 3).

Students first analysed the given square in its spatial qualities that can potentially be enlivened, such as light, bio-diversity, densities, voids, texture etc. Secondly they were asked to design a structure to facilitate a program that would double the liveliness in the decaying infrastructure and social life in the given spot in Karaköy. Simultaneously, they were asked to form an integrated programmatic and physical network overrunning the whole area, connected via a continuous circulatory system. This forced them both to develop their design ideas specifically tuned for the design potentials of their own square, and at the same time, to negotiate with their neighbours in order to ensure that physical and programmatic connections between the structures are built accordingly.

Due to multiplicity of neighbours in each square and complexity of multi-layered design negotiations, there appeared different authorial behaviours that span beyond individuality and yet cannot be specified as group work. The open platform facilitated collectivity as a fluid function guided by the choices of designers and requirements of design subject. Each student had to become the agent of their own program and yet recipient of demands from other agents from neighbouring squares. As authorial decisions of each student collided and cohered, design decisions congregated modes of collectivity that were formed and reformed, concurrently. Different from having to choose between individuality and group-work, individuality was reinforced in a collective manner. The platform and design outcomes allowed the observation of modes of negotiation among designers, behavioural divergences in their roles of authorship and their formal impacts on design work itself.

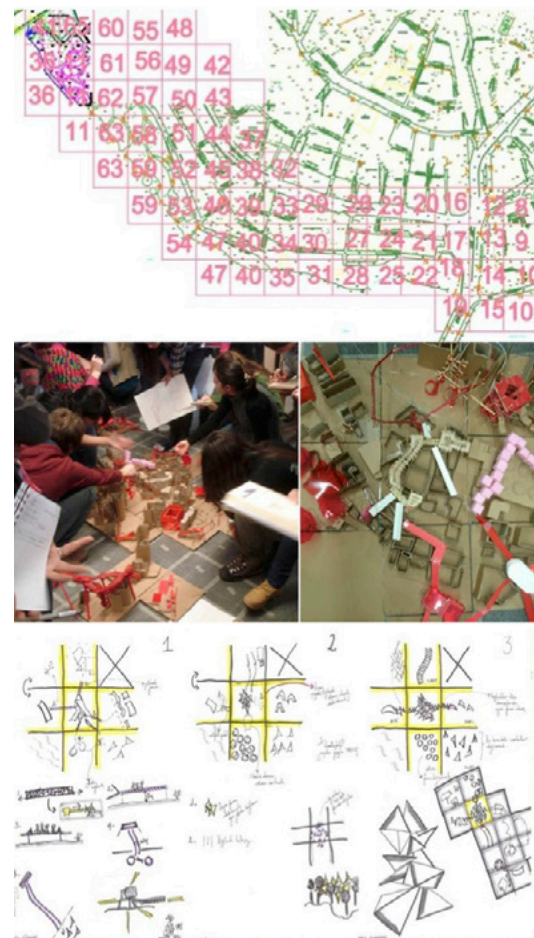


Figure 3. The grid-platform over Karaköy, and squares with numbers, images from the design in progress (Sevgi Türkkan)

### Reflections on the cases

Despite its meagreness, this brief survey of three independent pedagogic experiments still facilitate a ground for observations, reflection and speculation upon some emerging issues in re-situating the individual in collectivity.

An overall review brings out certain convergences and differentiations in the pedagogic intentions and applications presented in this paper (Figure 4).

Although these three cases have obvious contextual differences and distinguishing peculiarities, it is possible to observe some shared fundamental characteristics:

They all embark on an experimental agenda against the predicaments of the isolated figure-of-the-architect/author, and openly claim to challenge it through their specifically crafted pedagogic settings.

Students, in all three cases, operate at an individual level, but with different modalities. Their individuality

was interrupted by continuous exposure to influences during their decision-making process, not only by their tutors, as in a traditional studio environment, but by their peers, third parties etc.

	Bits and Spaces / Phase(x) ETH, Switzerland, 1996-1999	CBIP IDS Columbia, NY USA, 2010	GSAPP Ortanca, İTÜ,Turkey 2011
<b>pedagogical agenda (keywords) :</b>	CAAD technologies, network-culture, cyberspace, authorship	design-and-release, integrated design, open source, energy efficiency, building industry	design by negotiation, neighborhood, relationality, first year studio, Istanbul
<b>location in curriculum :</b>	elective course	graduate	undergraduate (first year)
<b>environment work space / medium :</b>	multiple studios + database-driven collaborative teaching environment	studio space, open source digital interfaces	studio space + physical grid platform
<b>tools &amp; technologies :</b>	model data, visuals, CAAD, www	digital simulation & fabrication, physical models, BIM, IPD, CATIA	physical models, drawings
<b>protocols of collaboration :</b>	individual authorship open to feedback and iteration + groups	individual yet shared authorship	changing authorial configurations depending on neighboring dynamics
<b>feedbacks &amp; assessments :</b>	self-rating, by selection, among peers	face to face, among peers, tutors jury review, desk crit, digital and analogue platform,	face to face, negotiation + on- platform critics on models
<b>studio outcomes :</b>	virtual architecture projects, data-base libraries	architectural projects + open source data library	architectural project

Figure 4. Collective reading of the cases (Sevgi Türkkan)

There also appears to be a shared care for preserving and recording the idiosyncrasies of judgment and performance, which brings a level of competition and motivation into the process.

Students were challenged to perform under interdependent conditions, yet required to take a position in it. In addition to having to put out a coherent design work, receiving and reacting to feedbacks, as well as providing feedbacks to others rendered an added load, yet a distinctive and nurturing feature of the process in all three cases.

Work-in-progress was accessible and shared throughout the design process, either in virtual or physical platforms. Unlike traditional settings where the final outcome has superiority to intermediary productions, all stages of work (models, drawings, data etc.) was regarded equal for its role and impact in the direction of the overall production.

Importantly, it is possible to observe the weakening role of the tutor in terms of pouring in feedback, critic and assessment, because the mechanism is set to provide an ad-hoc, self-organised, assessment and feedback cycle among the students. Although not entirely disappearing, the typical hierarchical setting of the studio seemed to break down and reform its own dynamics.

While these commonalities manifest a definitive character for such pedagogic experiments, there appears to be important distinctions among them that have to be marked.

Among these cases, there is great variety in the use of tools, ranging from high-end technologies of its time and cutting-edge computational intelligence, to analogue conventional orthographic drawings and physical models. Bits&Spaces and CBIP have similarities in their determination to explore the potentials of open source and supportive digital software for design collaboration and learning. Each one pioneers the contextual use of new design software (CAAD in the 1980s and BIM&IPD in the 2010s), which makes them particularly experimental in the educational context.

While Bits&Spaces' agenda is more directed towards experimenting with new technologies and virtual reality in architecture, CBIP IPD is linked to a practice-research oriented network, dedicated to reconfigure the role of architects in the changing building industry. Although the digital nature of these tools renders the process much more direct, measurable, traceable, instead of being representational, the agenda of the studio defines the character of the design-learning experience to be practice oriented or exploratory.

As foreseen by Bits&Spaces research group, integrated design tools such as BIM (Building Information Modelling) and IPD (Integrated Project Delivery) have become emerging methodologies that are technologically much more advanced compared to early CAAD, and maintained collaboration tools, which allow singularities to be traced easier. While these new networked environments continue to advance their programmatic skills and capacities, the field still remains open for exploration for its reverberations in architecture, education, and the question of authorship in both of them.

Meanwhile, the analogue use of architectural



representation tools (physical models, drawings etc.) in Karaköyx2 stands out as a statement on the possibility of such radical reorganisations without the support of digitalised media or high-tech tools. This might be regarded as a critique of the overemphasis on the exclusive role charged on digital tools or virtual space, and bring the focus back to the very relationship between the actors, use of tools and languages for interaction, unspoken hierarchies, habits and conventions that constrain architectural production.

Figure 5, displays the unique and diverse relationships between the individuals in collective formations. These diagrams (which are prepared by each studio themselves) are overly simplified yet suggestive visualisations of how individuals (coincidentally marked as dots by each studio) reconfigure their relational positions, as well as their autonomous spots in those relations. Hence, the various forms of “extension” that has been mentioned in the conceptual framework of this paper can be metaphorically described as the space around and between these dots (some traced by lines).

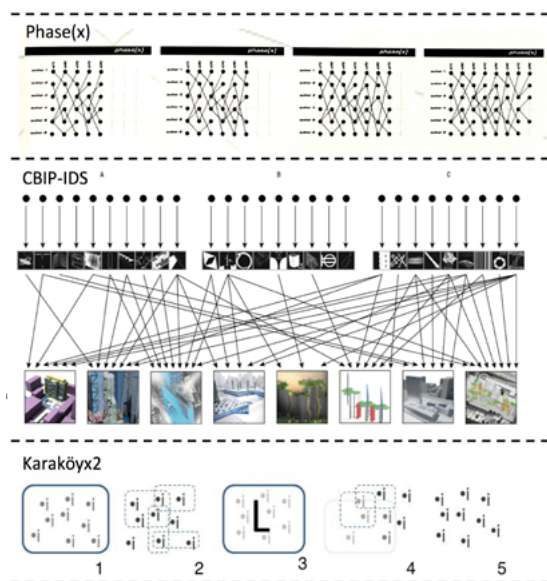


Figure 5. Re-organisation of individualities in the collective (gathered by Sevgi Türkkan)

By reading these relations in these diagrams in detail, one can trace arbitrary interactions, playful exchanges and dialogues between the individuals, as well as the rules and guidelines that shaped the overall progress.

For example in Karaköyx2, due to the loose

character of the protocol, which is merely defined by the condition of neighbouring, individuals felt more liberated to take various positions in their environments. Among the many of transient and dynamic modes of interaction, five outstanding organisational behaviours were traced and documented: (1) The Team, working as a single body with full collectivity, (2) Individual-Conversational, maintaining individuality besides being in conversation with neighbours, (3) Group with a leader, one student taking the lead, others following his/her decisions, (4) Weakening collectivity, starts with a strong collectivity, then fading into individuality, (5) The independents, minimum collectivity, almost independent from the beginning to the end, very low conversation with others (See Figure 5).

As seen in the cases, groups and teams are not entirely excluded from these formations, neither do they appear as fixed or final states of collectivity. In fact, in Phase(x) there appears to be no groups at all, while in Karaköy it is observed that some students chose to form teams, even though the setting requires them to be much more flexible.

In CBIP IDS, there are multiple and simultaneous modes of operating that overlap temporally, which were not represented in the diagram in Figure 5. A student would simultaneously act both individually on the improvement of her/his own element, while applying someone else's element on a collective proposal. This example highlights the importance of transiency in groupings and separations in such design environments. Such awareness alters the singular conception of the individual, meaning of “taking a position”, or “building an identity” from a static and pre-set conception, to a multi-layered and dynamic mode of connectedness.

## Conclusions and further questions

Architectural design studio, with all its rituals, traditions and conventions, not only serves as a learning environment, but also a social incubator of thinking, acting and producing in accordance with the roles and responsibilities assigned for the architect. Pedagogic settings have long been the instrument to exercise and develop judgmental skills, positions, behaviours and a value system, that later prolongs into the practice. Therefore the design-learning experience in the studio continues its central role for

the discipline, and its transformation.

The idea of reorganising the interactions between individuals in a design process may seem simply like a logistical or even a technical task, but its consequences are not. The quest for “extension” has critical implications in architecture and architectural education. It challenges the predefined roles and capacities of the author-self and means of practicing authority in relation to others. Whether or not to incorporate those skills and experiences of integrating into societal, environmental and philosophical contexts, into learning of architecture is crucial in rethinking the professional and ethical roles, power relationships, and the search for creative means to re-establishing them. Till’s work<sup>9</sup> is a good anchor point which extensively problematises architectural discipline’s delusional claim for autonomy, purity and control, by pointing out the lack of emphasis on relationality and dependency in the practices of architectural design starting from design studio education.

The given cases exemplified only a few of endless possibilities in critically reorganising the design studio, yet they were fruitful enough to open up issues into debate, which otherwise remain hidden in conventional studio rituals.

After all, it appears that the environment of architectural education has more to offer compared to practice in terms of facilitating experiments with breaking authorship long before it is rigidified by cultural norms and pressures. Engeli (2001) mentions that the loss of single authorship could thus be a traumatic experience for architects, but that it wasn’t so for the students who participated in the courses. The realisation of this process, together with the new and interesting aspects they added, had a positive effect on the working conditions and the motivation of the individuals, strengthening interaction among the participants.

Today, we are witnessing a distinctive departure from the singular heroic figure of the author in mainstream architectural discourse, which some critics exalt into marking it as the end of architecture as-we-know it. Numerous alternative architectural practices (transdisciplinary collectives, network practices, open-source sharing, etc.) flourish in various geographies and contexts as an apparent indicator of a departure from the old paradigm of authorship.

Miessen (2010) suggest that it is precisely here where one can posit the turning point in practice: the neglect of ego-centric narrative and self-referential ambition in favour of catering to a particular, site specific situation. The interesting aspect currently being addressed that there is no clear distinction any longer, but rather specific decision-making with regard to whether or not a particular mechanism should be applied within an individual project. Miessen also warns against breeding architects as the next generation of consensual facilitators and mediators,<sup>10</sup> which seems of crucial importance for breaking the protocols of consensus machines.

Technological advancements from the 1990s onwards undoubtedly enabled open-culture possibilities into a whole new ontological level. Yet the orthodoxy regarding the dominance of power structures, ownership and control mechanisms, are still issues that need to be thoroughly debated regardless of the technological disguises. It is crucial to conceive such pedagogic experiments not merely as a test for technological feasibility but also in terms of their intellectual conclusiveness and strength in breaking authorship-related constraints. As the case studies revealed, based on how agenda and use of tools are set, a very conventional non-digital studio setting could have the capacity to emancipate design practice from predetermined behavioural traps.

In opening towards new paradigms of collectivity and engagement, it is important to remain sceptical of the popular tendencies, and question how truly these attempts challenge the deeply-rooted predicaments regarding the architect’s autonomy and architectural authorship. In order to scrutinise the misconceptions and unquestioned clichés around the collectives and “alternative” authorship configurations, a series of questions could help to further this critical investigation:

- Does plurality of actors in a design process necessarily and automatically annihilate the singular genius author model?
- Are all modes of collectivity in design studio really pluralistic?
- Can design work be performed individually yet still be engaging, relational or reflexive?
- Does collaboration alone guarantee the required richness, diversity or strength in a design practice or education?

- Is consensus practiced more rigorously with emerging digital environments?
- Can conflict and disagreement prove to be fruitful design inputs? How could it be embraced as an input in a design and design-learning process?
- What other proactive architectural practices could initiate peculiar and contingent authorship models?

Finally, the brief examination of these pedagogical experiments might allow potentials to be highlighted in emancipating the production of architectural knowledge starting from education.

The reinforcement of individuality in a collective manner can be acknowledged without falling into traps of romanticism, or dangers of creating overbearing consensus machines. Developing the unique tools and languages for this extension in connectivity and engagement could liberate the flow of knowledge beyond disciplinary or institutional boundaries, enrich possibilities for productivity and creativity through a wider database and richer library of knowledge. This could also trigger new cultural and economic models for architectural production, with greater societal impact, as it has already in some other fields.

Dutton's reminder of the design studio as not being a neutral site but the characteristics of contemporary society and other asymmetrical relations of power seems correct to finish with. With his words, the prevalence of these power relations will continue to demand conscious and effective counter measures, including the development of enlightened pedagogical practices that encourage students and teachers to question all forms of knowledge within social relationships animated by dialogue and reciprocity.<sup>11</sup>

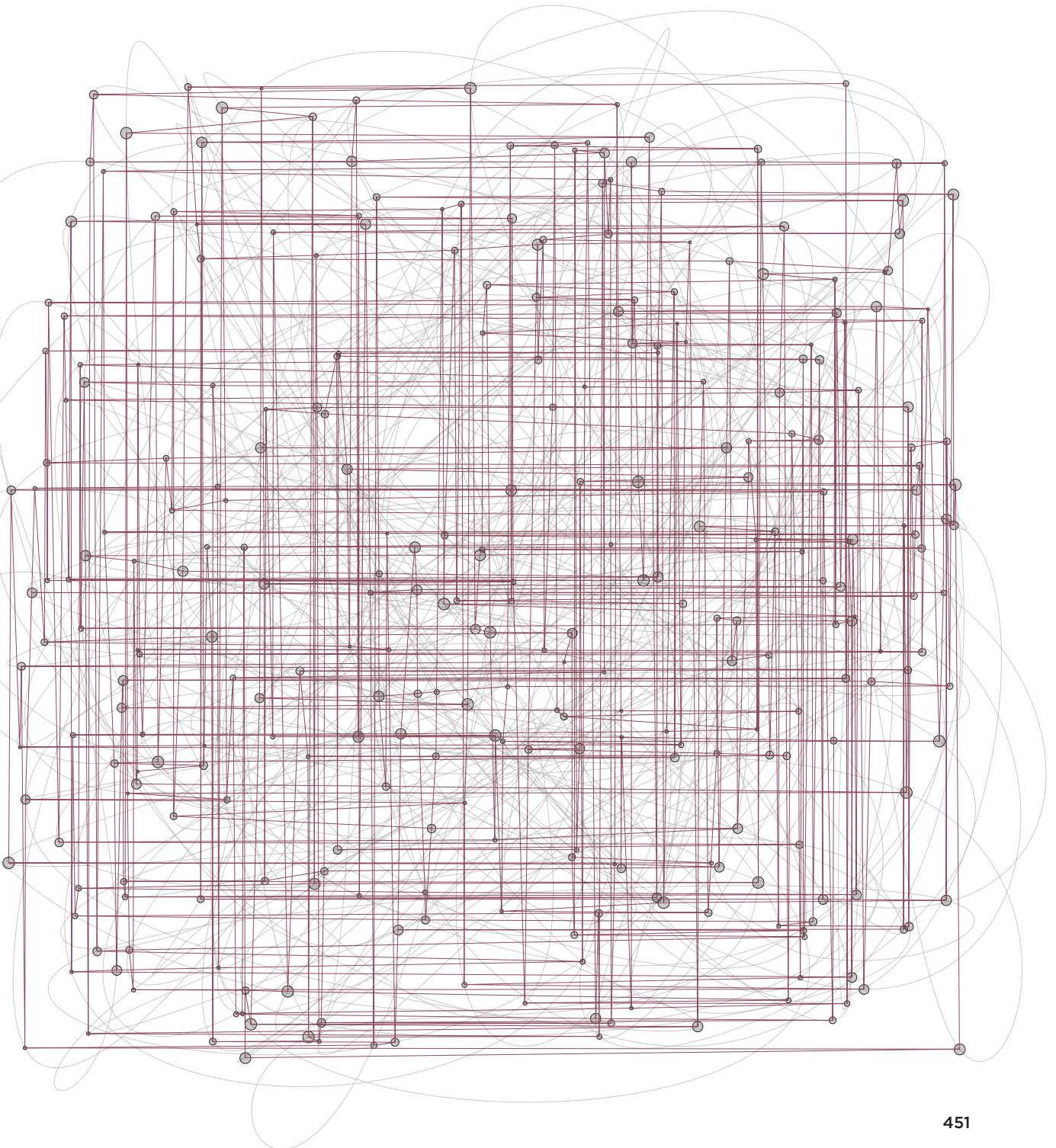
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## CHAPTER 3

### Case Studies









# Four Projects Built by Students.

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**KEYWORDS** Architecture, live projects, building, construction, engagement

For the last five years we have led a year one architecture undergraduate unit at the University of Cambridge that has focussed solely on live projects. The projects have taken various forms including design and build structures as well as more complex projects that have supported real world clients in pushing their ambitions forward, for instance by generating a body of ideas that act as a foundation funding applications.

The reason we made the decision to pursue real-world clients for our students to work with was because we felt that the briefs which are traditionally set for students of architecture were lacking in helpful complexities found in the real world when dealing with a client and sometimes even a structure which needs to get built. We also felt that as tutors, writing the brief, we were wielding a very valuable resource; one that we had the opportunity to give to organisations who were desperate for such help but didn't have the financial backing to buy such intelligence.

The outcomes of the project in terms of design production vary but the learning outcomes, some of which were surprising at first, have been quite similar and compelling across all of the projects. Things which we might have either struggled to motivate our students to engage in within a theoretical context or we might never have thought of as interesting without a real world stimulus driving the investigation.

## **Project 1. The Old Nursery, Tottenham Green, London. (2014)**

Our students worked with a church organisation based in Tottenham on a three part project which resulted in a public exhibition and a major funding grant to the organisation to renovate a derelict building that had been poorly maintained and out of use for some time.

As part of the year one programme our students

acted as architects on behalf of the church, who gave them a brief to look at the programme and spatial arrangement of the church site. The client was interested in opening up the fenced-off site and introducing new, public uses to the derelict buildings. Our student group developed architectural designs of various scales and ambitions, which isn't unusual in architectural education. The difference here was that at each presentation the client group was present and involved in the design commentary, taking the conversation out of a purely academic context where the student designers were attempting to negotiate an emerging architectural design with the normal tutor / invited architectural guests and the client. This brought real world concerns to the fore of the discussions, challenging the normal academic design project set up.

This study led to a summer project design and build project, open to students from across the UK in which the group designed and built a summer pavilion on the same site (a bandstand). The project was funded by the local council and a local businessman who took an interest in our project. This relationship with the project ultimately leading to the church organisation using the students' study to apply for funding to renovate the listed building.

## **Project 2. Percussion Wall, The Junction, Cambridge. (2014)**

Our undergraduate, year one architecture students worked with a local cultural venue, The Junction to enliven a drab public space which the venue fronted onto but had had little luck in agreeing any cultural offer with the commercially minded operator.

The students worked in small teams to develop a group of temporary projects that could be built in and around the venue which the client chose a





winning design from. The students then teamed up to collaborate in building two of the designs; a cheeky pop-up performance which they didn't get permission for as a protest and a 50m long drum wall hung from the wall of venue building so that no permissions were required from the land owner but maximum fun would be had by passers-by who were encouraged to create some noisy havoc by banging the 250 drums.

### **Project 3. The Allotment Project, Cyrenians Allotment, Cambridge. (2015)**

The students designed and built six significant buildings on a large allotment space for a local charity who work with homeless people.

Working in six groups of six, the students developed designs from briefs given by the allotment manager which included bike storage, a new tea shed, composting infrastructure, a mobile market stall, a bothy for hard conversations and a large shed (or small barn) with various making and storage functions.

This project was a serious undertaking for any designer / maker let alone a group of students in the first term of their first year studying architecture. All of the groups acted as architects but the project also involved groups identifying other roles that student must play to realise their designs. Groups were required to identify, from within their teams, structural engineers responsible for quickly learning and calculating the structural designs, quantity surveyors responsible for quantifying the tools and materials needed and managing the project budget, project managers responsible for programming the design, logistics and building of the structures.

The group documentation that formed the portfolio submissions revealed a fascinating world of budget, structure and process influencing the shape, materiality and scale of the buildings in a way that no theoretical project could ever really convincingly achieve at this stage.

In addition to this the group built six buildings in the first two months of their education for a charity who really needed them.

### **Project 4. Cambridge Primary School, Cambridge. (2016)**

This year the students have worked with a newly built primary school in Cambridge on a collection of temporary structures within the grounds of the school

designed to encourage play and alternative teaching.

The built projects were developed closely with the students of the school, who took part in design sessions. Designs were developed as responses to the children's own drawings and thoughts.

The structures varied in form, from roaming tumbleweed like play structures to more permanent hill forts.

The architectural design work was injected with an interesting set of complexities born out of the client's understandable health and safety concerns. Portfolio submissions focussed on how design was influenced by safety comments, for instance rounding of edges or reducing trips and falls.

This incorporation of real-world issues into the design work is epitomised by the schools builder saying, one day before construction started that they would not allow any digging below ground level. This led to many teams undertaking an urgent redesign, whilst the structures were being built. A brilliant design challenge that no tutor writing a brief would ever be mad enough to plan but is a not uncommon requirement in practice.

Year on year, the projects have built a culture of doing real things with real clients in the first year of architectural study. Year one has learned how to manage these projects, what the limitations and opportunities are, how to work on these high energy projects within the schools facilities and how to recognise a good client.

Importantly, we feel the students' are driven to engage with much broader issues than just geometry which is only a small part of the architect's role. The tangible opportunity of building something that you designed makes doing project management, structural calculations, material research, value engineering, diplomacy and client management and ultimately building work something which our students have taken on with relish, even on cold winter weekends in muddy allotments.

As importantly, the projects have been a way in which we have allocated the university's resources to charitable organisations rather than allowing it to disperse into a theoretical void or be thrown in the department skip at the end of the year.



# Move the Neighbourhood with children. Learning by co-designing active urban environments.

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**KEYWORDS** co-design, playable, temporary interventions, public space, urban development

What happens when children participate in the design, development and construction of public urban space? What are their dreams and visions for a common space, when they are given the chance to imagine, build and express their ideas? What learning environments exist in the context of such a design and research project?

The research project “*Move the neighbourhood—with children!*” explores children’s engagement with public space through a collaborative process of co-designing and building public spaces in a local community in Copenhagen, Denmark. The project investigates if and how co-design of urban spaces in collaboration with children can develop better locally integrated playful outdoor spaces facilitating social interaction, physical activity as well as contemplation. The practice-based research project<sup>1</sup> is themed around children’s use and understanding of public space and developed and constructed through a collaborative design process.

The initiative is part of an interdisciplinary research project between three Danish research institutions; University of Copenhagen, The School of Architecture and University of Southern Denmark. In the period from 2015-2020 the partners work together to develop, construct and evaluate the physical spaces and the related processes.

The project is situated within a municipal area renewal initiative<sup>2</sup> in Sydhavnen, Copenhagen, Denmark and is thereby part of a broader urban planning context and transformation but also confronted with, and part of local agendas, needs and visions.

We investigate if the project has an impact on the neighbourhood and its communities in multiple

ways. We analyse the actual design intervention and construction activity with the children and our partners, but also the project’s relations on a broader scale within the local planning context.

The double perspective is crucial, because the project is closely linked and made possible due to the current context of urban development in Sydhavnen. The interplay between the design process with the school and the ongoing development in the area reveal how the contextual conditions becomes an influential part of the co-design process. Hence, the co-design process encompasses manifold aspects of strategic manoeuvring within local planning agendas, between different aims and approaches at the involved institutions and in the translation of idea workshops towards a 1:1 urban space intervention being built by children, carpenters, researchers, teachers and volunteers.

The participatory process consist of two phases and site interventions where researcher and designers collaborate with local children through a number of co-design approaches and methods from the design discipline to develop and subsequently build the urban installations that are of a semi-temporary character (minimum 1 year). The first part of design and construction was executed in spring and summer 2017 and took place in the context of the local public school and an adjacent underused public green area. Two 5th grade classes (11-12-years old) took part in the project from January to June 2017, where the project was incorporated in their weekly craft & design classes. The second design process will take place at a local after school club with in August 2017.





The applied co-design approach (Sanders & Stappers 2008)<sup>3</sup> include methods such as mapping, collaging, models, 1:1 prototyping, reference work as well as the actual construction of installations. Implementing the interventions in full scale took place in collaboration between children, designers/ researchers and experienced builders as the core team.

Learning and education within the field of design and architecture plays a role in the project on several levels and works as an important driver. Not only are we as a team of researchers with backgrounds in architecture, landscape architecture and co-design researching this field of collaborative design and planning practice, the project is also an integrated part of the teaching at the local school, putting creative idea development and dialogue and negotiations about space on the learning agenda in a unique way. Furthermore the involvement of skilled craftsmen, trainees as well as volunteers further expand the field of learning for the research project as well as for the children, meeting and interacting with various stakeholders and professionals during the project.

The forthcoming work in “Move the Neighbourhood—with children!” will analytically address these different learning and space making environments within the project, the steps of design translation and their relation to the current urban planning agendas and hopefully add further knowledge to the field of co-production and architectural knowledge embedded in practice.

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INSTAGRAM: #bevægbyenmedbørn

# bridgingMZAMBA. A community driven implementation process of a pedestrian bridge, Eastern Cape, SA.

MARLENE WAGNER.

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**KEYWORDS** suspension bridge, trans-disciplinary, cross-cultural, North-South partnership

*"In our area we are used to not getting anything from government, but in contrast to other places we are not burning cars or riot. We rather reach out and try to find new ways, because we know government is not able to provide service for all. We can meet them half way with new partnerships."*—Nonhle Mbuthuma, Chairperson bridgingMZAMBA Community Steering Committee.

If we had only guessed that we were embarking on a journey of more than three years, defined by changes of direction, delays, highs and lows, we would probably not have dared to bridge the gap in the Mzamba Gorge. As is often the case in unknown terrain, in retrospect one is grateful for the naïve motivation and the curiosity that sparked it.

This is a remote, but at the same time globalised place on the border with the former *Transkei homeland*, between the *Hibiscus Coast* and *Pondoland*, tourist resorts and round huts. Here, you come across traditional grassroots democratic community leadership (*Kunkulu*) and chiefs, casino managers, female activists, American film productions, an Australian mining company, corrupt local politicians, an Austrian school and the everyday South African discrepancies. The stories worthy of being filmed and their actors play out in front of the most beautiful backdrop in Africa.

About 250 individuals made an active contribution and took on responsibility for opening up the space that enabled the development of this project. The architecture that now spans the Mzamba River does not reflect communication difficulties or compromises, but in its geometry and detail the exceptional collaboration of different stakeholders. The self-

built Mzamba Bridge is a life-saving infrastructure, a constructed landscape, a political landmark and sexy!

The community driven project bridgingMZAMBA originated in the urgent need of, and request by, surrounding inhabitants for a safe crossing of the Mzamba River in Eastern Cape, South Africa and included the design and implementation of a 131-meter-long suspension bridge in a collaborative manner.

The Austria based NPO buildCollective (Elias Rubin, Marlene Wagner) teamed up with two Masters students (Florian Anzenberger, Thomas Harlander) of the Carinthia University of Applied Sciences (CUAS) under the guidance of Prof. Dr. Peter Nigst for the design and planning phase.

A steering committee of 15 members chaired by Nonhle Mbuthuma representing the local community and client, guided the process and carried on negotiations with necessary stakeholders. Support and authorisation could be established in liaison with engineers from South Africa and Switzerland (Dr. Lüchinger+Meyer), environmental experts, the Mbizana Municipality and Eastern Cape Department of Economic Development Environmental Affairs and Tourism to ensure technical accuracy and compliance.

*"The idea of a bridge over the Mzamba River would not let us go. The will and thought behind the idea took hold of us."*—Florian Anzenberger and Thomas Harlander, CUAS.

Design and technology was guided by the reduction of environmental impact, available resources, the implementation with lay-people and the hardly accessible construction site.

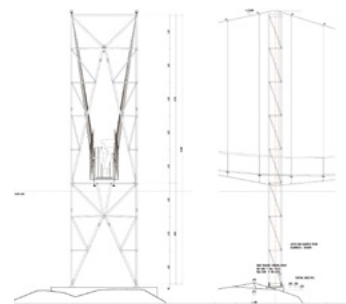




School children visit construction site of Mzamba bridge, Harlander



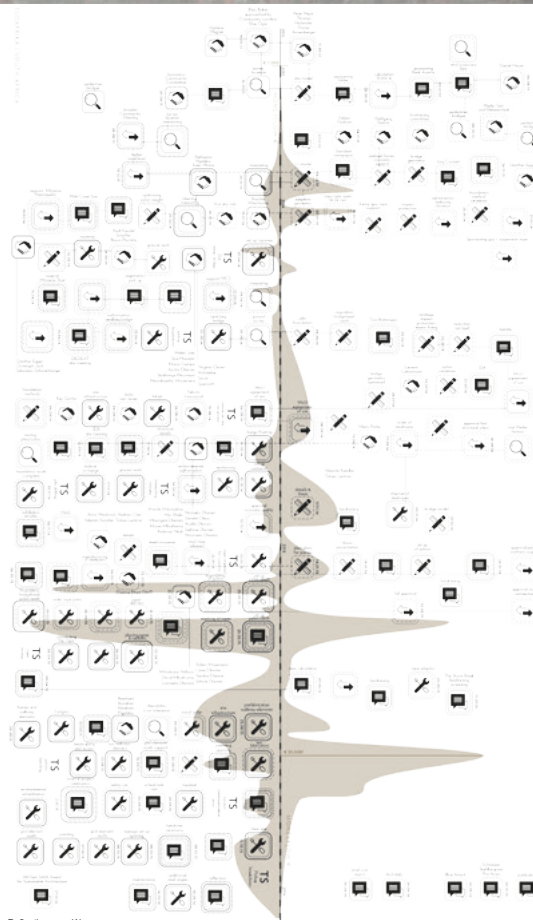
Site meeting with committee, students, NPO and government, Harlander



Section steel-pylons, Anzenberger/Harlander



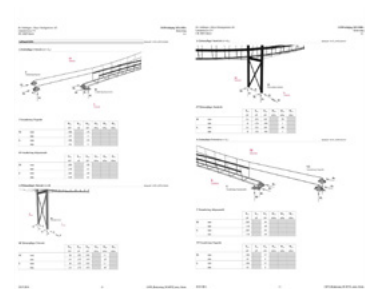
Construction team of students, volunteers and community member, Weisbrod



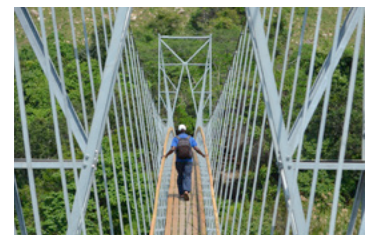
Reflectionmap, Wagner



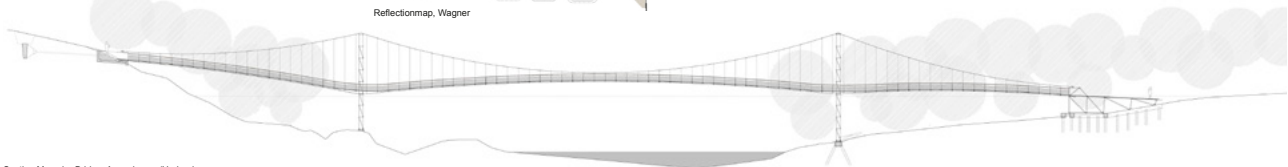
Set up of 15 Meter high Pylons with winch, Wagner



Calculation of supporting loads, Dr. Luchinger+Meyer



Mzamba Bridge in use, Weisbrod



Section Mzamba Bridge, Anzenberger/Harlander



Set-up of steel-pylons in Mzamba gorge, Wagner

The overall project costs of 200,000 Euros were carried solely by sponsors, donations and personal contribution.

*“Before starting to develop an idea, that is able to mediate between wishes and reality, it is very helpful to be aware of all existing limitations. The greater their impact, the more helpful this is.”*<sup>3</sup>—Peter Nigst, CUAS

*“While the onsite construction work was characterised by almost preindustrial conditions, the planning made use of the digital processing chain. The parametric design by the architecture students facilitated the implementation into the assessment program of the engineers, which in turn helped to speed up the optimisation steps. These are examples of an ongoing planning procedure that is unpopular in construction projects, but served as a useful means to an end in this case. The fact that the planning was not subject to any concrete economic pressure encouraged persistent questioning and the optimisation of the proposed solutions.”*<sup>4</sup>—Matthias Kunze, Dr. Lüchinger+Meyer

Design-build projects allow considerations of ideas and requirements, planning and execution, usage and therefore the possibility to set up an overall process of spatial creation. The absence of regulations, aside from the established service system of clients, planners and executors, favours the exploration of new partnerships and applied research into alternative ways of practice.

In this self-initiated practice, collaboration does not necessarily mean consensus, but rather conflict and friction in order to transparently negotiate mutual trust in expertise, critical engagement and joint project. “The understanding, the production and the change of spatial conditions gives us the basic preconditions for identifying the wider areas of the political reality.” It is not about givers or takers or charity, but about justice and sustainability. “The political moment makes an appearance when executive power is assumed, when you become visible.”<sup>5</sup>

The process does not follow a classical narrative structure, but instead “presumes rhizomatic structures, where knowledge grows exuberantly, laterally, transversely, tangentially and proliferates in an unforeseeable manner.”<sup>6</sup>

This affects all phases, parties involved and actions within the project. The given conditions and existing power relationships are not simply accepted, but constantly questioned and actively generated,

visualised and spatialised.

In several phases of negotiations, fundraising, design and construction since 2012, this extraordinary infrastructure could be realised with October 2015 as a self-build project of community members, students and volunteers.

The Mzamba Bridge is now connecting residents from a catchment area of 30km to necessary infrastructure such as educational facilities, health care, jobs and general food supply. Further, it serves as a political landmark and potential attraction to enable socio-economic development through eco-tourism.

*“Because of the Mzamba River we were divided and for the very first time we have joint these two villages. At the hand-over ceremony I was standing in the distance looking into the tent seeing people talking to each other, laughing, greeting each other, that was the moment for me, that wow! – that is how we should live like.”*<sup>7</sup>

The project received a number of international awards including the Prix Acier 2016, the European Steel Bridge Award 2016 and the AfrisamSAIA Award for Sustainable Architecture.

For more information on the project, please visit:

- [www.buildcollective.net](http://www.buildcollective.net)
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# Re-growing the Kathmandu Valley.

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**KEYWORDS** Architecture, Research Methodology, Civic Engagement, Urban Agriculture, Kathmandu Valley

Rapid urbanisation has transformed the Kathmandu Valley (Nepal) into one of the fastest-growing metropolitan regions in South Asia. The Valley is an urban assemblage anchored on a core city surrounded by suburban areas and satellite cities and towns whose economies are becoming highly integrated.<sup>1</sup> As Toffin states the steady urbanisation of the Valley has had a considerably negative impact on the setting, producing traffic congestion, atmospheric pollution, and a total collapse of the former fragile ecological equilibrium between the city and its territory.<sup>2</sup>

Urbanisation has been driven by Kathmandu's growing centrality within Nepal's economy, as a centre of government, industry and tourism, which has drawn increasing numbers of migrants from rural areas.<sup>3</sup> This trend was exacerbated by the Maoist insurgency (1996 - 2006) during which rural people who were threatened migrated to the valley from the hills, looking for a safe haven as the revolts escalated. Over 40,000 migrants (locally referred to as sukumbasi) live in precarious conditions in squatter settlements, mostly located along the Bagmati riverbanks.<sup>4</sup> Due to fluctuations in the job market and lack of resources for the production of food, they have the greatest difficulty in securing an adequate food supply.<sup>5</sup>

Despite constant changes in the physical and cultural landscape of the Valley, there are still plots of land available within the city that could be used for urban farming. If development is seen, as argued by Sen,<sup>6</sup> as a process of expanding the real freedoms that people enjoy, with appropriate institutional arrangements, the activity of urban agriculture could also be a way of fostering civic engagement by residents (including landless citizens) providing access to wider opportunities available within the city, strengthening, for example, individual capabilities, initiatives and skills.

This research responds to the problems of food scarcity and lack of opportunities for civic engagement in the Kathmandu Valley, particularly for its more recent residents. It investigates whether the physical and institutional topography of the Valley could be adapted and transformed to include more productive urban landscapes within its current physical and cultural topography and thereby contribute to the making of the city. It seeks to find a new balance between nature and physical environment and to envision what that urban topography would consist of.

At the core of it there is an intention to investigate whether the specific skills of the architectural researcher, mainly drawing and making, can be used not only as a means of encounter and discovery, but also as tools that enable both the local and wider civic communities to decide what needs to be drawn or built and to shift the role of enquiry host from the architect to the participants.

When surveying potential sites for intervention, open interviews with drawing as the language of exchange were used to record the thoughts and stories of local citizens, enabling them to inform the architectural speculations. What I started calling "participatory drawing" allows people to be involved at different levels: while some enjoy taking the pen to draw as they talk, others prefer to watch me drawing while they narrate the stories having the opportunity to comment instantly if the sketch is incorrect.

The speculative drawings aim to uncover opportunities for urban agriculture at different scales, from the domestic to the urban. The edible wall, a bamboo vertical planter to be placed against the house façade, emerged as a response to a specific setting, maximise the opportunities for farming within Saroj's family house located in the informal settlement of Shanti Nagar. Through drawing and making workshops

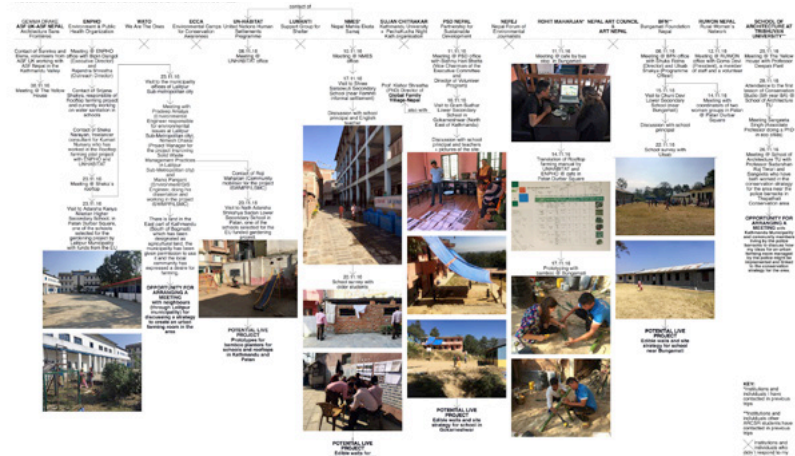
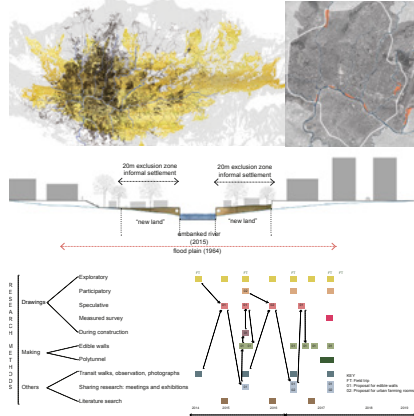


## Could the physical and institutional topography of Kathmandu be adapted and transformed to include more productive urban landscapes and thereby contribute to the making of the city?

Research problems:  
Food scarcity and lack of opportunities for civic engagement in the Kathmandu Valley (Nepal).

Nov 2016: The process of sharing speculative architectural proposals with residents, city authorities, academics and NGOs enables latent live projects and triggers new architectural speculations.

Land use in the Kathmandu Valley: urban fabric expansion in black, agricultural use in yellow. 'New' ground has emerged in the middle of the expanding city and has been occupied by landless urban migrants: informal settlements in orange.

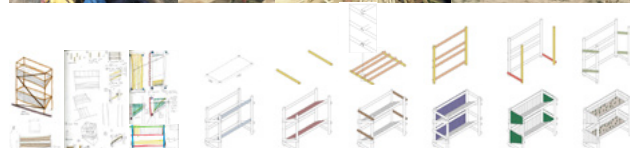


### 01 Edible walls: proposals for urban agriculture at the domestic scale

Nov 2014: [1] Cultural and physical surveying, leading to identification of a project and topic:  
Analysing Saroj's family house in the informal settlement of Shanti Nagar and envisioning opportunities for urban agriculture at the domestic scale: edible walls.



Nov 2015: [2] Provoking through a small intervention & [3] Recording resistances:  
Designing and making a bamboo planter prototype with local teenagers and manual developed afterwards illustrating the steps to build it.



Jun 2016: [4] Making accommodations:  
Residents of Gari-Gaun informal settlement building a planter following the manual. Through the process of making the design evolved and adapted. The making workshop triggers another speculative proposal: an edible wall that covers the whole facade of Bhagavati's house but respects the existing openings.

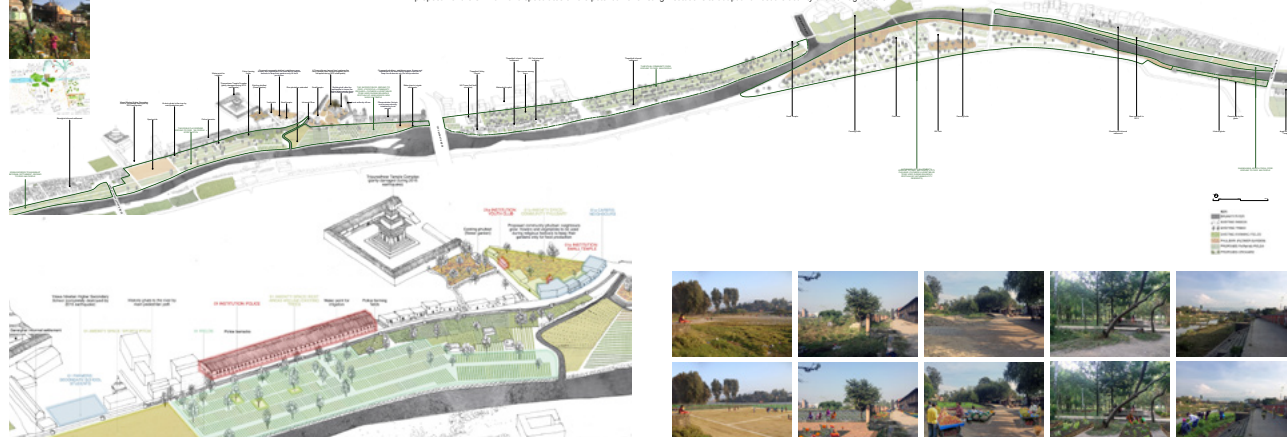


Nov 2016: [2] Provoking conversations, [3] Recording resistances & [4] Making accommodations:  
The process of sharing speculative architectural proposals with different stakeholders demands new making workshops to scale up the vertical planter and triggers new architectural speculations that envision edible walls in government schools.



### 02 Urban farming rooms: proposals for urban agriculture at the city scale

Nov 2015: [1] Cultural and physical surveying, leading to identification of a project:  
Analysing the existing urban order by the Bagmati banks at the river's pass through Kathmandu city centre. Open interviews with drawings as the language of exchange were used to record the thoughts and stories of local residents, enabling them to inform the architectural proposal that envisions the inclusion of 5 urban farming rooms within the official proposal for the UN Park and speculates on the potential for existing institutions to adapt and host the activity of urban agriculture.





with local residents the proposal was scaled up to be placed in government schools, showing it can adapt to fit newer imaginations. At the river pass through the city centre, residents from three informal settlements are in threat of eviction to enable the creation of the UN-Park. The proposal was located here. It included five urban farming rooms in the Bagmati banks, illustrating how 156,000m<sup>2</sup> of unused common ground could turn into community allotments and produce enough vegetables to feed 50,000 people all year round. The project envisions the inclusion of a farm within the park maintained partially for those living nearby.

The participatory drawings are tools for surveying and provoking a response in the setting. They are hand drawn on site in collaboration with others who are present in that moment. The speculative drawings are produced solely by the researcher far from the study area. They are tools for envisioning possibilities to provoke a reaction by those at all levels of engagement with the topic. Despite their differences, both types of drawings are tools for telling.<sup>7</sup> They have been conceived as unfinished pieces: they are ever ready to evolve and accommodate new layers of enquiry, constituting the first traces of a 'loose fit' strategy.<sup>8</sup> Through small-scale interventions, making is understood as another tool for gaining access to existing institutions as well as an opportunity to explore material and socio-political resistances brought about by the act of making itself.

This bottom-up and hands on approach, combined with top-down conversations (with public authorities, academics and NGOs) to find out which are the constraints and limitations for the speculative proposals to flourish, led to the organisation of an exhibition in August 2017 (during my second field trip as doctoral researcher) understood as an urban learning forum.<sup>9</sup>

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# Between Emic and Etic. A Design Pedagogy with Older people.

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**KEYWORDS** studio, pedagogy, narrative, emic, etic, older people

Design studio pedagogy has traditionally circumscribed the outside world within the brief. Reality comes into play as the context to engage with, which may consider a selection of constraints imposed by urban conditions such as specific regulations and available resources, as well as by behavioural patterns of [fictional] clients and users.<sup>1</sup>

Social psychologist Jerome Bruner pointed out the key role of narrative in the construction of knowledge about the world of social interaction. As he stated, “we organise our experience and our memory of human happenings mainly in the form of narrative”.<sup>2</sup> Diachronic schemas articulate our apprehension of the world. Overlaid into culture - a system of meaning and a narrative itself - narrative embraces not only the “ordinary” and common sense, but also the extraordinary. It is this uncanny element, the breaches of the ordinary, which warrants stories’ ‘*tellability*’ and triggers new stories.<sup>3</sup> As such, narrative is not just a form of meaningful representation of reality, nor merely the communication of this representation, but also a powerful tool of projection and invention.

In what ways can this narrative apprehension of experience contribute in mediating between the complex reality and the educational context of the architectural design studio? How can it be articulated in a studio brief to ground a meaningful learning experience?

It is within this background that the architectural design studio Domesti-City aimed to explore narrative as a design methodology to engage with the socio-spatial everyday practices of the elderly. Domesti-City is a unit running in the 3rd year of the BA/MA

in Architecture course at the ESALA, University of Edinburgh. Two complementary perspectives were interweaved in a shared narrative to ground design interventions in the urban context of local town centres in Edinburgh. The etic one, that is, the external viewpoint of the students acting as direct observers of the elderly within their everyday environments, and the emic one, the elderly’s own perception of their everyday practices.

## Methodology

Drawing on tools borrowed from visual ethnography, interaction design and psychogeography, the unit was articulated in three acts aimed at reinforcing the emic-etic connection by progressively immersing students in the everyday life of the elderly.

Act one is the etic construction of a video portrait of a persona – “hypothetical archetype of actual user”.<sup>4</sup> By collating material from direct observation in different urban and domestic settings, the video re-assembles in a narrative of a typical day the actions performed by a composite elderly persona. Beyond description, contrasting sequences and subjective shots bring a certain intentionality to the story about the socio-spatial situations under investigation by recreating the breach, the odd event that is worth telling.<sup>5</sup>

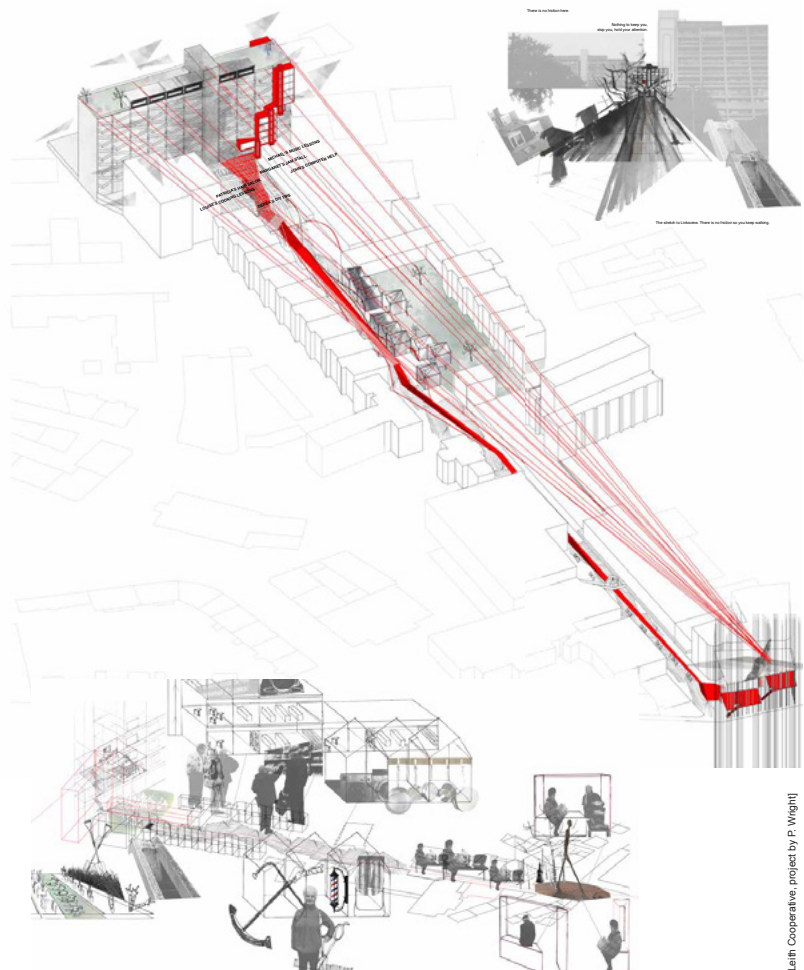
Act two was the design and performance of an interactive session with a group of elderly in the lounge of a sheltered housing complex in Edinburgh. It was conceived as a twofold opportunity for students to engage actively with the emic perspective: by inhabiting one of the elderly’s daily routines, the coffee morning and the afternoon tea, and by articulating



[Dioramas interaction, T. Antonopoulos, T. Glencross, S. Gong, M. Greenbank, S. Polyviou, H. Gatenby, A. Karam, N. Mustapha, S. Polyviou, C. Sandison, K. Saranti, T. Scott, T. Shack, A. Woloszyn, P. Wright]



[Still frame, split screen persona video portrait, H. Gatenby, P. Wright]



[Leith Cooperative, project by P. Wright]

through discussion a common narrative about urban and domestic futures. Conversations were triggered and loosely structured by using a range of portable models or “dioramas”.

Designed as playful portable artefacts, they offered speculative representations of local areas to stimulate and register conversations between students and participants. During the two-hour session, pairs of students and elderly gathered around the dioramas to engage in an exercise of urban re-imagination that unleashed key concerns and gratifications in everyday encounters with urban and domestic spaces.

Act three, back in the studio, the construction of an urban transect reconstructed the plurality of episodic emic–etic encounters into a spatial network – a new narrative - of small interventions straddling between the domestic and the public realm of Edinburgh’s local town centres.

### Outcomes

The construction of narratives for the city of the elderly has been mediated by the specific artefacts and tasks defined in the brief: the video of the persona, the diorama enacting the performative encounter, and the urban transect. The production of each of these representations situates the students in a precise location to respectively observe, perform and finally recreate a narrative within each of their architectural design interventions. The artefacts and tasks compelled students to consider a nonlinear approach, challenging a mere diachronic narrative structure, and sustained the iterative interplay of the emic and etic perspective throughout the term. Students explored what Jerome Bruner claimed being a plurality of little realit(ies) that emerge in the everyday, each ‘constituted by the different principles and procedures that we use within it’ – ‘something like a culture’s treasury of tool kits’.<sup>6</sup> The dioramas and their tectonic qualities, combined with unexpected changes of scale, triggered the co-production of the architectural knowledge that led to the final proposals, in which students re-imagined the everyday practices of a future city of the elderly as a narrative of scattered domestic and urban interventions.

The methodology made possible in the limited time given to achieve a deeper and more sensible understanding of the socio-spatial reality of a specific demographic group, and in this specific case to

challenge preconceptions and ageism. The emic/etic narrative engagement with the elderly resulted in a learning experience that encouraged a more nuanced and empathic reflection on students’ role as designers. As in the best novels, the narrative construction projected them in their future self, and from that perspective, they were compelled to assess critically and readjust their proposals, enhancing their awareness of the potential impact of their activity as designers.

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# One to One. An Introduction to construction technology for First Year Architecture Students.

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**KEYWORDS** Catalan Vaults, Brick, Structures, Deformed Walls

Brighton is a singular sort of place. It is the only Borough to return a member of the Green Party as their MP. Many of our students are aware of this when they apply to join our First Year of Study. In some cases this has influenced their choice of University.

This case study should be seen as very much part of the 'Brighton Way' of Co-operative Endeavour<sup>1</sup>, Situated Learning<sup>2</sup> and Inclusive Pedagogy.<sup>3</sup> The First Year Technologies Module aims to allow students to "earn and own" their technological knowledge. The One to One Project takes place in the second Term of the Academic Year. This is preceded by a series of "Introduction To Technologies" lectures, which run throughout the First Term. These cover topics such as Energy Efficient Design, Structural Stability and Strength, and Building Precedent Studies in Historical Context.

The Cohort is posed a construction question at the commencement of the Module. For the last four years these have been related under the banner "More with Less". Generally these fall into two constructional families. "Heavy", usually masonry construction and "Light" Inflatable and tension structures. The thinking behind this is simple. Following the First Year, our students join vertical design studios for their second and third year of study. It is our experience that the depth of knowledge, developed by the cohort of one or the other is transferred peer to peer with in the close-knit vertical studio environment.

For the 2014-15 One to One Project, our Students worked in groups to design, construct and record the development of a number of brick components and structures, Roman Arch – Catalan Vault<sup>4</sup> – Deformed Wall. Highly skilled crafts people or robotic construction arms usually produce these. Often

these structures are reinforced using expensive and fallible metal components. Our students were asked to question these conditions of production through a design process leading to the construction of non-reinforced masonry structures that might have a global application. They were tasked to produce formwork that could be delivered as pdf files to any part of the world. The formwork was designed to be realised using ubiquitous and cheap materials such as packing cardboard. These locally fabricated formworks should in term, guide semi-skilled builders to produce high performance brick building components with the minimum of craft training. All masonry building materials were donated by Hanson Building Products.

Formworks were tested over the last weeks of the second term at our "building site" at Circus Street Brighton. Each student group produced an accompanying reflective document, describing the process of design and construction, with reference to technological insights, working methodology, human resourcing and project timetabling. The contents of this document is designed to mimic the contents of reports produced within Architecture and Construction professional offices.

## Aims

It is the aim of the First Year Technologies Studio, through development of a critically engaged building element, to foster an understanding of the vital part that Architects and Constructors play in the preservation of the health of the planet and the wellbeing of our clients as individuals and as members of a broader society.

## Methodology

No one in the building industry works alone. A key method employed for the First Year Technologies module of study is Group Work Practice. This includes study of construction precedent followed by Co-operative Design Development, Group Construction and Analysis of Component Performance. Peer Review is followed by Individual Reflection. This process is captured in a Group Technical Document.

## Findings

Student experience of group endeavour up to the time that they join the BA would appear to be confined to sporting activity. Academic and Arts education being experienced as a single minded, highly iterative pursuit of personal grades.

Finding: The inclusion of group meeting protocols, assigned project roles and responsibilities allows students to gain insights into formal management methods.

The Groups were their own Guinea Pigs for testing the effectiveness of their design work. Few of them had ever used hand tools, and none of them had ever built a masonry structure.

Finding: This allowed them to reflect upon the responsibilities Professional Designers have towards the people who are tasked to construct their designs.

## Outcomes

Student: The One to One Technologies Module is, I believe, broadly successful in giving Students an understanding of the Environmental underpinnings of Construction Technology Deployment. They have begun the process of developing knowledge of Critical Design Method in a Professional Group Context. By Empirical Practice and Critical Reflection they can say that they “own” at least one aspect of Construction Technology knowledge, thus giving them the confidence to tackle other areas of design research and development in the future.

Personal: My participation with Cultural Geometries has led to the construction of prototype Catalan Vaulted non-reinforced Marble Pavilion in Alentejo, Portugal.

## Impact

Local, University and the City of Brighton: The use of Circus Street Market as a construction site was

possible because the University had negotiated with site developers Cathedral, to activate the empty site buildings during the planning and design period of their development as housing. The site was used during this period by local small business, such as bicycle repair stops, salvage stores, coffee outlets, and local community groups and arts organisations. Giving a window onto the activities of the Brighton Students. Helping keeping the place active.

Academic: Part of The ‘Brighton Way’ of developing Live Projects.<sup>5</sup>

Industry: Paul Rogatzki the Head of Design and Technical Services at Hanson Building Products support for the project was as a result of Hanson’s own Engagement Policy. The Collaboration with University of Brighton First Year Technology Students being disseminated within their Europe-wide organisation.

Research: Following a presentation of the Student Project to a group of fellow academics and Architects, in 2015 I was invited to become a partner in the Research Association Cultural Geometries.

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# Biophile. Biophilia and Architectural Education.

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**KEYWORDS** Biophilia, Environment, Design, Digital, Education

*Biophile* is a design and research collective around Barry Wark, Maria Knutsson-Hall and Andreas Körner.

Since 2014 Biophile has been involved in the teaching in the undergraduate programme at Oxford Brookes University. The academic agenda focuses on notions of biophilia in architecture, the implementation of vegetation into the building design and the creation of spatial conditions that do not just embrace advanced and complex geometries but also invite nature into the building – to be an inherent part of it.

The research group's individual members follow personal career paths with different foci. While the common ground is the topic of biophilia other strategies such as novel materials, ecological facades and digital environmental simulations are equally important themes.

This year the unit's brief was about dichotomous spaces, thresholds between inside and outside and blurring the boundaries between the two realms both visually and environmentally. Compared to the previous two years of Unit C the application of plants was less apparent but the complexity and clearness of geometry increased. The students were introduced to advanced digital design tools (software) and fabrication techniques - such as CNC milling, laser cutting, 3D printing – at a very early stage of the year. This allowed them to design quicker and in a more iterative manner as with traditional methods.

The year began with a trip to the inspiring Oxford Museum of Natural History, where students had to pick specimens intuitively. Students picked a large variety of different objects from the museum such as insects, corals, seashells and plants. This initial inspiration from a non-architectural theme tied each student's project together and many were able to carry it through the year and weave aspects of it into their

final building projects. In times of struggle those initial investigations acted as a continuous external reference.

The early software and fabrication tasks required the students to learn in a very collaborative manner and share both information as well as responsibility. Some of the crafting required individual students to organise things in the university's workshop for everyone. From a tutor's perspective, it was a great experience to see how some students reach out and apply themselves beyond the requirements of the programme.

In this case, the tutors were able to conduct their own pedagogical research within the unit's weekly routine. Exposing young architecture students to these techniques for the first time was both challenging and rewarding and opened new perspectives for both students and teachers. Additionally, a design brief that focussed heavily on technical challenges and construction allowed for the technology tutor, Pravin Gosh, to play an integral role that extended beyond the traditional scope of works.

The final projects were all public buildings between 500-1000 m<sup>2</sup> and located in the city of Salzburg in Austria. The students of Unit C have been confronted with the challenge to apply their ideas on open buildings and biophilia in a semi-alpine climate that varies from very hot summers to cold winters. The unit's brief demanded the students to challenge conventional building methods and question the role of the envelope. This had to be negotiated with the fact that their sites were all located within the UNESCO world heritage area. While it was left to each individual student how to deal with the historic heritage it was emphasised that interventions must be thoughtful and fit for each proposed programme.

The fresh and sometimes naive approaches intrigued local architects and representatives from the city to whom it was presented later in the academic





year. At a meeting towards the end of the year the current stage of work was presented to the *Initiative Architektur* Salzburg, the local architectural society. The local architects and curators have been excited to see work, which was free of preoccupation and requested to showcase the student's output during Salzburg's Architecture Days in July 2018. Both the novel approach towards the integration of nature into architecture, as well as the bold proposals had an engaging effect in a city, where digital contemporary architecture still struggles with a highly conservative audience. While the Initiative Architecture was already collaborating with another university from Europe at that time the interaction was initially more on a sporadic basis. After presenting student output the engagement grew due to curiosity and excitement about the suggestive proposals. In this sense, the local architects were very interested in the students' views on the site and some of the key findings that resulted from the remote research and mapping the students conducted while preparing for the study trip in Oxford.

The work presented in this case study represents a pedagogical process that first hands new knowledge and skills to students, requires them to learn from each other in an autodidactic way, share knowledge and skills with each other and take responsibility. Over the course of the year, the students had to learn how to challenge traditional methods while maintaining defined building standards and complying with the programme's requirements.

# Threshold Occupation / Migratory Spaces.

ANDREAS KÖRNER.

*Oxford Brookes University.*

**KEYWORDS** Interdisciplinary, Environment, Design, Digital, Simulation

The presented case study shows the final output of a one-year long collaborative project. Initially evolving out of the author's personal diploma project at the *Bartlett School of Architecture* in 2016, it was further developed together with the author's former thesis tutor *Hareth Pochee* from *Max Fordham* in a post-programme collaboration. After winning the *Max Fordham Environmental Design Prize*, the research continued under the award's umbrella. When the author joined the design, research and teaching group *Biophile*, the team for the project expanded with Barry Wark and Maria Knutsson-Hall at *Oxford Brookes University*. The presented work was exhibited at the *Clerkenwell Gallery* during the *London Festival of Architecture* in June 2017. It has been part of *The Sun and the Moon and Other Memories* show amongst interdisciplinary works of six other practices from London.

*Threshold Occupation / Migratory Spaces* is a collection of concept models, films and explanatory drawings that highlight different stages of a form finding and exploration process. The research aims to investigate the application of computational fluid dynamics simulations in early stages of the architectural design process. Furthermore, it discusses the implications of this design methodology on space planning, atmosphere, and thermal comfort. Consequently, functions are allocated on a migratory basis where comfortable territory is occupied according to the currently present environmental conditions. What is defined currently as narrow and binary threshold between inside and outside, becomes an inflated inhabitable spatial condition with varying air conditions that gradually change from space to space. The conditions are indicated visually by the application of thermochromatic elements, which visualise temperature and make it perceptible over

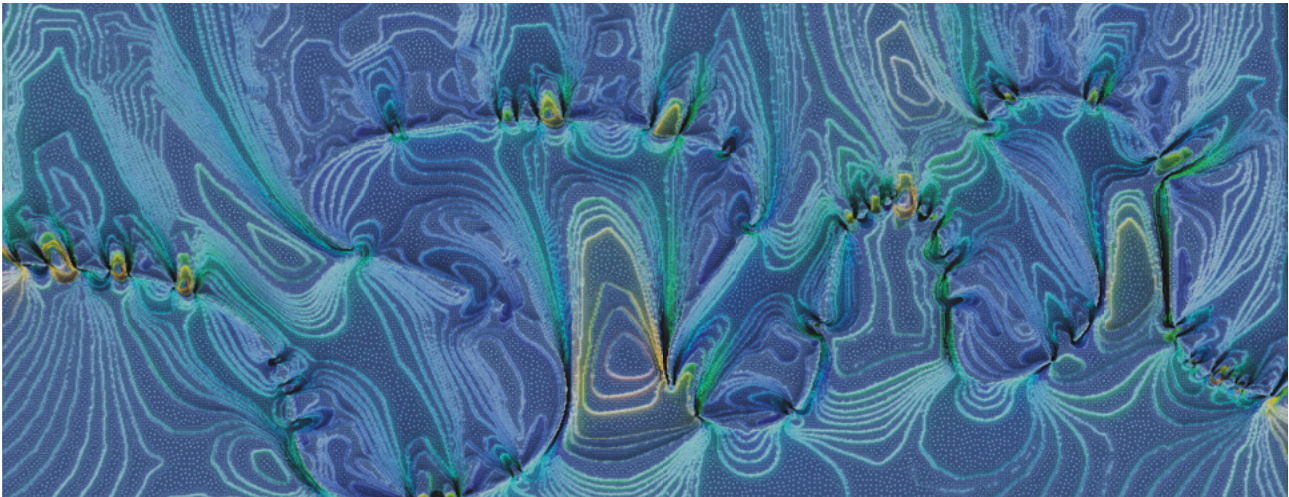
distance to navigate the user through the structure (see Figure 3).

The initial stages of the research were very much focussed on the process of learning a new piece of software (*Autodesk Simulation CFD*), not commonly used by architects (see Figure 1). This stage involved a lot of professional support by an external environmental engineer from *Max Fordham* to help with understanding the simulation's output and enable the researcher (back then a student) to draw conclusions from the analysis which was consequently translated into an architectural design strategy. It was important to find a methodology that allowed for formal and organisational exploration while maintaining a certain research standard. The very intangible digital output had to be transformed and applied to a building design proposal. It acted as a foundation for material tests and try-outs of several digital fabrication techniques including: laser-cutting, CNC-milling and 3D-printing. Over the course of six months the basic tests led to a more sophisticated method that culminated in the author's final diploma design project: a public library in Istanbul. The design incorporated a system of environmental tectonics, altering air flows and their thermal properties by applying different surface structures, thicknesses, and material-embedded responsiveness.

When the decision was made in 2016, to take the research a step further, it was clear, that new external input was needed to enhance the process.

Within the research collective *Biophile* the project's trajectory was slightly modified to comply with the group's agenda of biophilia in architecture, particularly with invisible notions of nature such as temperature and humidity. The programmatic scope of the proposed architectural manifestation was extended to the implementation of plants into the







environmental design process. Plants as an indicator of thermal comfort and as active and responsive elements of space making (see Figure 2). The knowledge of the other members of Biophile about these specific design theories helped to create a more coherent concept. During the academic year of 2016-17 at Oxford Brookes University the students of Unit C investigated dichotomous spaces and threshold conditions between inside and outside. The unit's brief was heavily influenced by the experimentation which is presented as a part of this case study.

In early 2017 Biophile was approached to exhibit the project, by this time several papers have been successfully submitted to conferences, in the current format as part of the London Festival of Architecture.

All results presented as part of this case study have been formed during spring 2017 in a joint effort within Biophile under the design lead of Andreas Körner with feedback and support from all previous associates.

What started as an individual student project in a postgraduate course was continued as a collaboration between a young professional architectural designer and an engineer. The research was then introduced into an undergraduate unit's brief and further developed within a research collective. All stages of the (still ongoing) research required people from different professions as well as in different stages of their diverse careers to work together. Every step shifted the gravity towards another aspect: from design to simulation to biophilia to education to exhibition. Consequently all stages had different outputs which manifested in a variety of media; both digital and physical. The collective effort pushed the project beyond each step's initial brief and opened new possibilities and partnerships. Finally, the continuation of the research would not have been possible without the financial support from the Max Fordham Environmental Design Prize, which allowed the research to transit from a student idea into a promising project involving a multitude of interdisciplinary collaborators.

# OBENauf, a bed & breakfast, run by people with disabilities.

ASS. PROF. DI DR. TECHN. PETER FATTINGER.

*design.build studio, Vienna University of Technology.*

**KEYWORDS** design-build, learning by doing, inclusion, social engagement, collaboration

The *design.build studio* at Vienna University of Technology offers students the particular opportunity to be physically involved in all phases of a real architectural project, from design to construction. The project based learning method fosters learning in a very immediate way. Within the project students have a hands-on building experience where they can learn a lot about building techniques and detailing, how to deal with the budget, schedule and unexpected obstacles, as well as to work in a big team, in collaboration with others.

In the course of the projects the students communicate and negotiate with real clients, prospective users, local authorities, consultants, craftsmen and material suppliers. Consequently, in the construction phase, the students are also confronted with the frictional resistance which usually occurs, when plans get transformed into built reality.

The *design.build studio* is focusing its work predominantly on socially engaged building tasks and is therefore collaborating with various NGOs. CARITAS is one of these NGOs that the studio has already collaborated with several times on very different projects over the last years. Recently the studio was asked by CARITAS to design and build an adaption of a historically protected manor house of a former Abbey. On the idyllic listed estate for around 25 years, CARITAS has been operating “Bauernhof Unternalb”, a home for 40 residents with disabilities, and a farm with various workshops, in which about 60 people with disabilities work. When a wing of the estate, which until recently had been used by the Abbey, became vacant, Caritas decided to expand the range of workshops, which focused on organic agriculture, masonry, painting and woodworking. A

tourist facility in the form of a bed and breakfast inn was to be implemented in the idyllic and remote estate in Austria’s wine-region and be operated by people with disabilities as an additional workshop for the facility.

The 25 students had to examine the historic fabric very precisely before they started to design the complete reorganisation of the building in steady dialogue with the client, the future users, the specialised consultants and the Federal Monuments Office. The design task finally included not only the remodelling of the building, but also the design of the entire furniture, from bedside tables to freestanding wooden boxes inhabiting the bathroom and offering an accessible gallery-floor on top of the boxes. Even the development of a corporate identity for the bed and breakfast was part of the students’ design project.

After the students successfully submitted the planning documents to the authorities they entered entirely new territory as builders. They began to free the listed building from later additions piece by piece. For three months they removed plasterboard, old flooring, installation-pipes and tons of soil from underneath the ground-floor. The students were working hand in hand with the disabled people of the institutions workshops.

When the deconstruction phase was finished, professional craftsmen joined the team. An official construction company, as well as a local carpenter, an electrician and a plumber were working alongside the students and the people with disabilities on the building-site. This special constellation of involved parties offered mutual learning and exchange, which usually is not evident on building sites. Of course, the fact of having these very differently skilled teams working together made quite some coordination work



necessary.

After 76 planning and construction meetings, around 300 construction-days and around 6,500 hours of pro bono work of the involved students on the building site, with lots of endurance and mutual support of all involved parties, the bed and breakfast facility opened its doors in spring 2016.

Looking back on its first year of operation, the bed and breakfast is bearing fruit. The facility is very well booked and the people with disabilities, working in the new tourism-workshop, are taken up with their role of hosting guests.

The idea of incorporating a public hostel into a threshold facility for people with disabilities, in order to live inclusion on a level playing-field, proofed to be a good one. Getting in contact with the various visitors, the people with disabilities experience a great diversification in this usually very remote rural area.

For the students on the other hand, the immediate goal of a design-build-studio project was not only to build architecture, but rather to get the possibility to evaluate the quality of their thinking against the constraints of the real world and to understand the implications of their decisions in a broader context.

As the bed & breakfast is a public building we have constant access and hence, knowledge about how it is standing up to being used. This offers us insights, not just constructional but also about how the space feels, how it withstands the pressure of daily use and the extent to which it is accepted or, eventually, adapted by its users.

More than one year after the bed & breakfast opened its doors, some of the students, who designed and built the facility, are now working on a book about the project and the process of its implementation. The book will include interviews with the people with disabilities, who run the hostel as well as with other people, who were involved in the project.



# Rural Works.

**ZOË BERMAN.**

*Studio Berman.*

**KEYWORDS** Architecture, Making, Craft

## Description

Rural Works is a three-week workshop held in the summer term for First and Second Year students for the Welsh School of Architecture, as part of the school's annual Vertical Studio programme. Held in Cumbria, it gives students the opportunity to explore the landscape through hand drawing, and to respond to their surroundings by designing and making small-to medium-scale interventions. Design ideas are produced for small structures that allow people to use, access and enjoy the immediate area better.

The educational workshop situates itself within the pedagogy of live projects – the discipline within architecture of “proto-practical learning that takes place in the borderlands between architectural education and built environment practice” (Jane Anderson and Colin Priest). The workshop intends to take learning out of the studio and test making in real time; translating paper-based ideas into real and tangible made pieces. This directly relates to the conference's interest in live projects, “extend(ing) the institutional confines of the design studio” (Live Projects Workshop), giving students the opportunity to negotiate a brief, timescale and – in Rural Works – work creatively with limited materials.

The workshop has been run in 2016 and 2017 on the same site, on the edge of a rural village. It is led by architect Zoë Berman who instigated the project, with designer Shamoon Patwari. The site is located on a well-used footpath and members of the public often stop to ask what the students are working on. In these conversations local people offer comment and knowledge about the specifics of the place where we're working. These informal conversations act as 'live' crits throughout the week.

The last week centres on studio-based work, retrospectively drawing the interventions that were

built. A short publication and accompanying short film document the process, from design concept to realisation. This record keeping is a means to disseminate what the students have learned. It is also a way of sharing the experience with local people, and with students and staff at the Welsh School of Architecture.

It is hoped this annual documentation will build a body of knowledge about making and testing, and capture our growing understanding of this site. The recording process enables a critique of the building process. As an educational tool, it allows students to look back on their experience and reflect on their work, reviewing the usefulness – and gaps – in what they have done. Past projects have shown that by the end of the three weeks there is a greater awareness amongst students of the impact, and potential, of connecting the generation of design ideas and making as an interconnected process.

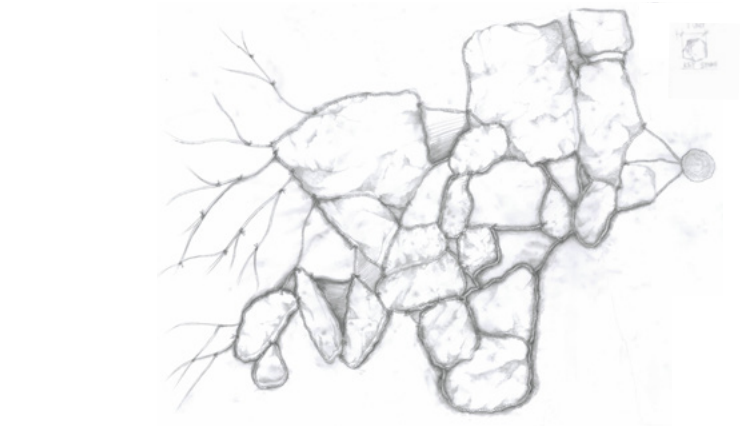
## Evaluation

### Aims

Learning through making; introducing students to use of tools and materials; working in a rural context with local, appropriate materials; sketching and drawing by hand.

### Methodology

The workshop is attended by 15 students who have voted to participate in this studio, and lead by two tutors. Teaching is based in a cruck barn that is temporarily set up as a studio, located on the edge of the village of Staveley, Cumbria. Students camp nearby. Participants are encouraged to understand the surrounding landscape through observational sketching. They're instructed in basic tool use and as



a group explore methods of making. Finally students record the process as a means to reflect on materials and construction.

### *Findings*

None of the student participants have prior knowledge of skilled making. By the end of the first week they're able to identify and use a basic tool set, commensurate with entry-level building work - and have gained awareness of materials that are specific to the area (timber and slate). Students work in groups of five to build a co-designed temporary intervention. It has been observed that they quickly appreciate the time needs to be invested in hands-on, non-digital fabrication. This has resulted in initial design ideas being scaled back in line with their abilities. As they engage in making, their designs have evolved to account for what they're capable of delivering in a small group - and in response to the volume of material available. Arriving at the workshop with little to no prior maker knowledge has led to inventive ways of connecting and joining materials, with varying degrees of success.

### *Outcomes*

In 2016 and 2017 students built interventions including: a method of measuring slate boulders, a structure that responded to the movement of river water and measured flow, a viewing platform, an enclosed pathway, woven stepping stones and a suspended timber screen. Asked what they felt they'd learned, students stated "working in a team all week was a really good exercise in teamwork and collaborating" and "(we've) worked within the parameters of time and available materials" - "learning how to work fast effectively/efficiently".

### *Impact*

The scale of projects has been partly limited by students gradually gaining maker skills, and this takes time. The tools and materials palette available to us has also been limited by available funding. These constraints mean projects have been small, and temporary. To expand the usefulness of Rural Workshop we'd seek to build structures that are needed and useful to the village's community - for which we need input from expert makers. This increased level of skill would support students to build structures that are much needed by the village; in particular a small

footbridge in replacement of one washed away in the Cumbrian flood 2015. Making permanent structures would better channel energy into making useful and usable interventions. This would strengthen the socio-ethical thread of the workshop, and would encourage students to have greater confidence in the long-term benefits of architects having skills that enable them to translate a self-initiated idea, from paper into a 1:1 realised built structure.

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**Location:** Staveley, Cumbria

**Dates:** April 2016, May 2017

**Participating Institutions / Organisations:** Welsh School of Architecture

**Participating Disciplines:** Architecture, Making / Craft

**Case Study / Project Leaders:** Zoë Berman

**Tutor Names / Team:** Zoë Berman  
with Shagoon Patwari

# River Bath in Mnichovo Hradiště.

JOSEF MÁDR AND ŠÁRKA MALOŠÍKOVÁ.

*Faculty of Architecture, Czech Technical University in Prague.*

**KEYWORDS** design-build, wood, cooperation

In 2015, the newly elected municipality of Mnichovo Hradiště, a town in North Bohemia, decided to improve the town public spaces. The goal was to attract local people, who were used to travelling to the larger neighbouring towns because of the cinema or sport activities, to spend their free time directly in Hradiště. One of the focal points became a town park connected to the Jizera riverside.

At the same time, Studio MáMA (Mádr-Malošíková) from the Faculty of Architecture, Czech Technical University in Prague addressed the town architect Jakub Chuchlík to cooperate on preparing studio assignments for the two following semesters of the academic year 2015/16. The Studio was also asked to prepare a student proposal for the riverside, and to design and build several wooden objects there.

A workshop for 15 students was organised. Its aim was to offer students of the Faculty of Architecture an opportunity to collaborate on an assignment arising from actual needs. Firstly, a public meeting for local people was held to discuss the plan for the refurbishment and to collect ideas for outdoor activities that could take place in the area. They created a map where preferred activities were expressed by verbs and put in the proper position on the printed plan.

The design phase started with a weekend stay in Mnichovo Hradiště. Students visited the site and transformed verbs from the map into preliminary sketches. These ideas were discussed with the town architect and the most attractive designs right next to the river were chosen to be elaborated. The design was influenced by already existing usage of space - part serving to children and their parents and part for swimmers and sunbathers. Outdoor chess and a swing were added. Students had to specify the materials and produce detailed drawings for the production of metal

pieces. Thorough working drawings were not prepared due to partial construction works carried out at the Jizera river banks while students were still finishing the design. There were only simple drawings and section views prepared, together with the basic rules of anchorage, joints and manner of wood placing.

In the second week of July, students arrived and the realisation began. During the second day, the weather worsened and it started to rain heavily, the river began to rise and construction works were delayed. The Mayor summoned all the local authority members and when it stopped raining, some of them arrived at the construction site to help.

The Workshop was attended by students with different levels of knowledge and experiences with building. Individual roles in the team were not set by teachers, but arose naturally from the team interactions. The missing thorough working drawings appeared to benefit the most complex object, since students could independently develop and adjust their principles according to current conditions, which would otherwise have had to be delivered by teachers during the designing phase. In another case, students followed the simple drawings too strictly, which led to rather unfavourable changes in the design. The third object's design changed completely due to a beforehand unknown obstruction hidden underground. Since this space was created at the very end of the workshop, valuable experiences gained throughout the stay reflected in its final design.

One year after the construction, the Studio is still in contact with the municipality, getting news about the objects' use. The student workshop was the first action to examine the potentials of the place. In the following years, a more elaborate plan for the whole area, including the adjacent park, is going to be developed.

For the students, the workshop was not only





an opportunity to build an object they designed themselves, but mainly to experience the atmosphere of a small town where even a minor construction is overseen by the Mayor and where every problem is solved with the help of those not indifferent to the changes of the place they live in.

# Kitchen on the Run.

TEXT COMPILED BY MARC BENJAMIN DREWES.

PROF. DONATELLA FIORETTI, CHAIR OF ARCHITECTURAL DESIGN AND CONSTRUCTION.

TU Berlin.

**KEYWORDS** kitchen & container, locals & refugees, cook & share

In 2016 a shipping container transformed into a mobile kitchen has been traveling throughout Europe to offer refugees a cosy place to meet new neighbours. Every day about 25 locals and newcomers cooked and had dinner together. That way people from various backgrounds and different ages got the chance to meet each other.

*“We have cooked and told stories, we have cried and laughed together, we have sung and danced together. Every night has been diverse just like its guests. Still all events have one thing in common: each of the more than 2,300 guests from about 70 countries who visited our container felt welcome!”—Kitchen on the Run*

In April 2015, Jule Schröder, Rabea Haß and Andreas Reinhard applied for the Advocate Europe idea challenge with their project Kitchen on the Run: a mobile kitchen travelling through five European countries for five months. Kitchen on the Run was selected as one of the 10 winning projects out of 600 applications.

The Kitchen on the Run team contacted the Chair of Architectural Design and Construction held by Donatella Fioretti at TU Berlin to transform a typical shipping container into a mobile kitchen. Besides a functioning cooking area, a space for community cooking and dining was required. The construction had to be designed so that it could be erected by two to three people in a single day. It was also important that everything would function reliably during the half-year journey, and that potential damages could be easily repaired.

In a seminar competition the most compelling strategies were extracted and combined conclusively into a master plan in collaboration with all 19 students. It took 18 weeks from the first drafts to realisation.

Seeing the process through from start to finish

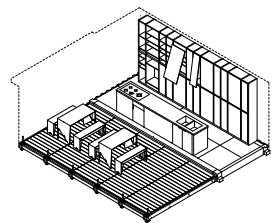
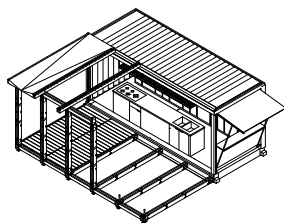
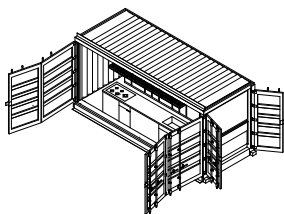
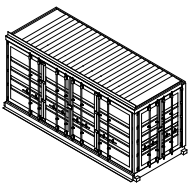
promoted craftsmanship and planning skills, and allowed the students to understand designing and building as construction research. The aim was to come up with custom made solutions for the given task. A lot of time went into the design of special details that supported the everyday life inside the container as much as possible and that were carefully tuned with one another to create a coherent look and feel all around. We strongly believe that the best possible output creates the most successful outcome. The people using this architecture will consciously or not feel the time, effort and love that went into creating their surrounding and will know that their needs were taken seriously. This will affect their mood and behaviour.

*“Our well-equipped container creates a cosy atmosphere, and is functional and flexible at the same time - it adapts to its guests and their needs every night. People who come to us seem to settle into a space where they can be themselves, meet and come together on an equal footing.”—Kitchen on the Run*

The heart of the design is a kitchen that is accessible from all sides when the container is opened, so that several people can cook together. A suspension of round-steel above the kitchen island provides more storage space and facilities for lighting. At the side door of the container, a “kiosk” can be folded in or out as required. The light steel construction provides two different expansion states. In the semi-open state, the up-folded floor acts as an information counter or bar. If the floor is unfolded, the table attached to the steel frame moves completely into the outdoor area and offers additional access to the container.

Floor-to-ceiling wooden shelving is placed at the back of the container. All dining and cooking dishes as well as working tools are stored in there. Light foldable







tables and benches made of wood-based panels form the shelf front and the furniture in one.

The attachment of a skeleton construction to the long side of the container can be opened through folding doors and allows you to at least double the size of the actual usable area. This kind of plug-type construction can be built by two to three people, and is made of prefabricated pillars and girders with attached floor segments and slim steely bracing bands. The roof is made partly of prefabricated truck tarpaulins. They are carried in channel rails between the roof trusses. The essential roof pitch is created by the three-dimensional folding of the tarpaulins.

In the summer of 2016, the mobile kitchen and the team of Kitchen on the Run have been traveling from Bari in Italy via Marseille in France, Duisburg in Germany, Deventer in the Netherlands to Gothenburg in Sweden. The route symbolised the path of refugees and their journey through Europe.

In 2017 and 2018 the container is visiting small German towns that became the new home for at least 500 refugees. For six weeks, several times a week a group of 20 – 25 locals and refugees will share the container kitchen to prepare dinner and eat together. The idea is to stimulate more permanent relations between newcomers and long-established residents. At the end another 5,000 people will be connected through this mobile incubator of inclusion.

*“Cooking and enjoying the food prepared together serves as an icebreaker and as a communication tool, if a common language is missing. Familiar smells become messengers of emotions, family recipes become “door-openers” to other cultures that suddenly feel less different.”—Kitchen on the Run*

#### Links

[www.kitchenontherun.org/english/](http://www.kitchenontherun.org/english/)

YouTube Channel:

[www.youtube.com/channel/](https://www.youtube.com/channel/UC6NvLN2c2LhANdASYHDiO1A)

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#### Design and Construction Team

Chair of Architectural Design and Construction, TU Berlin: Professor: Donatella Fioretti

Assistants: Marc Benjamin Drewes, Simon Mahringer, Christoph Rokitta

Students: Michaela Apfler, Philine Barbe, Sophia

Braun, Ammon Budde, Theodora Constantin, Marcel Hecker, Lya Kröger, David Leinen, Jonathan Lewkowicz, Juri Lux, David Potthast, Benjamin Schaad, Judith Schiebel, Stefan Schöllhammer, Anton Sieber, Nico Sonnenbrodt, Corinna Studier, Vanessa Vogel, Jonas von der Wall

Helping Hands: Stefan File, Jennifer Kegler, Martin Rudolph, Lisa van Heyden, Paul Walter.

# Workshop Østmarkneset / Ladekaia.

ASSISTANT PROFESSOR THEA HOUGSRUD ANDREASSEN,  
PROFESSOR STEFFEN WELLINGER.

*Student-driven NTNU Live Studio.*

**KEYWORDS** Live Project, transformation, public space, student-community engagement

The project is located on Lade Peninsula in Trondheim (Norway). The area is strongly characterised by structures from World War II. These structures are classified and considered to be part of the cultural heritage. The core of this project is the transformation and rehabilitation of a German built storage building into a seasonal restaurant and public space. The main goal of this intervention was to reactivate Østmarkneset as a growing recreational area in the city.

The project was a collaboration between Trondheim Municipality, local investors, NTNU Live Studio and NTNU students in order to reactivate a building that was on the edge of being demolished. As part of a master thesis written by Andreas Bakken Smedås and Thea Hougsrud Andreassen, it was developed into a student workshop where about 30 architecture students were tasked with refining a design and building the project over the course of two weeks.

The restaurant, called “Ladekaia”, opened June 2016, and in October 2016 the project was awarded by the local municipality, the architects chamber and the chamber of commerce with the “Trondheim Architecture Award”. This award goes to a “building or facility that forms an example to follow and can help to enhance, renew and develop general building tradition”.

The goal was to give Østmarkneset a new life, while preserving and enhancing the old existing structure. The sides of the building were opened up so that one can see the path continue around the building and give the area an overview which was missing. Where you once met a wall, you now see the wood structure, the magnificent scenery outside, and the warm and protective atmosphere within.

The most important design feature is the outdoor space in the northern part of the storage building, towards the sea. The design team wanted to give shelter to all users, regardless of the opening hours of the restaurant. This allows the public space and the café to intertwine, and allows the project to become part of the recreational path, accessible for everyone. The transformation from warehouses to the café is also based on a general principle of reuse. Cladding and other materials from the building are used for fixed and loose furniture.

After the workshop was finished in 2015, parts of the project were vandalised which resulted in a lot of publicity. The news triggered the local community to get even more involved in Østmarkneset. It gave people the reason for taking ownership, and many volunteered to help remove the graffiti, or help in any way. After this, the work with the restaurant and development of the area continued with even more intensity.

In January 2017 the restaurant “Ladekaia” was voted “Café of the year” in Trondheim. Based on the success of Ladekaia, the municipality and the politicians are now planning further development in the area and similar projects along the coast.

## Evaluation

### *Aims*

The core of this project is the transformation and rehabilitation of an existing storage building into a seasonal restaurant and public space. The goal of this intervention was to reactivate Østmarkneset as a growing recreational area in the city, and to preserve local cultural heritage from demolition.





### *Methodology*

So far a structured evaluation has not been accomplished. The findings are based on feedback through awards, press, the municipality and the managers of the café.

### *Findings*

The feedback both from involved partners and the audience has been very positive. Through the student project, and a following episode of vandalism, a strong engagement of the local community, ownership and a destination for social gathering, training and leisure was established. Ladekaia turned from a neglected space to “Café of the Year” with over 46,000 visitors during the first summer months. In addition, the transformation of the shed and the place making led to the public and political demand to transform nearby bunkers and other installations as well. This work is still in progress.

### *Outcomes / Impact*

The project started as a result of the municipality seeing no other alternative than to demolish the two storage buildings from World War II. The buildings were occupied and the area felt unsafe. Instead, we proposed to find a more sustainable solution, opening up the building, and transform it into a public space, activating a dismal part of a widely used recreational area.

The project's location promotes activity, and encourages people to walk, run or bike to the restaurant. Although Trondheim is situated by the fjord, Østmarkneset is one of the few places where you can sit right by the ocean. Registrations have been made by the municipality, who claims that there has been an increase of people walking in the area after the restaurant opened.

The transformation of the worn-down buildings also changed people's view of the place. Those who experienced the war did not want to go to Østmarkneset, but now they use the building as a clubhouse, telling stories about the area and the war. People no longer feel unsafe passing through, and the restaurant has given the public a motive to experience a new part of Trondheim.

Østmarkneset is still developing. The project worked as a positive kick-start for the area. Shortly after, architecture students designed and built a sauna

in one of the nearby bunkers; the kayak and free divers clubs are moving to the second storage building and the politicians are looking into developing the harbour and connecting Østmarkneset with the city via boats.

The municipality is also thinking about doing similar projects, and they are eager to continue the collaborations with the university, the architect students and NTNU Live Studio.

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**Location:** Trondheim, Norway

**Dates:** 07/2016

**Participating Institutions / Organisations:** Architect students, NTNU Live Studio, Trondheim Municipality, local inventors

**Case Study / Project Leaders:** Andreas Bakken Smedås, Thea Hougsrud Andreassen, Robin Loe, Annika Andersen, Carla Carvalho, 30 students

**Tutor Names / Team:** Steffen Wellinger

**Link:** Thea Hougsrud Andreassen, Steffen Wellinger, Workshop Ladekaia, Østmarkneset: <<http://ntnulivestudio.org/?project=ostmarkneset>> [accessed 14 September 2017].



# Framing Emotions. Representation of cinematic space through ‘dioramas’.

ANDREA PLACIDI AND CATERINA FRISONE.

*Oxford Brookes University.*

**KEYWORDS** Research-based education, Sociology / Anthropology, Multi-disciplinary expertise, Pedagogy, Professional Practice

The case study considers the results of a six-week long model-making workshop (held in 2017) in the Interior Architecture programme at Oxford Brookes University, investigating the social and emotional dimensions of the environments for food consumption. The workshop resurrected an old technique of representation (dioramas) to convey spatial qualities, re-connecting to an interactive visual media that was in use before photography and cinema were developed forcing the field of vision into a more ‘objective’ representation.

Whilst conventionally architectural models are scaled objective representations where orthographic correspondence is maintained but spatial qualities (light, materiality, occupation, views) are approximate, the workshop used the technique of Dioramas [from the Greek verb *diorao* – to see (-orao) *through* (dia-), meaning ‘*through that which is seen*’<sup>1</sup>] to provide ‘pictorial’ three-dimensional representations that captured a more realistic impression of a given space (and its variables atmospheric effects), by means of a deliberately distorted visual structure that accounted and enhanced the subjective conditions of viewing.

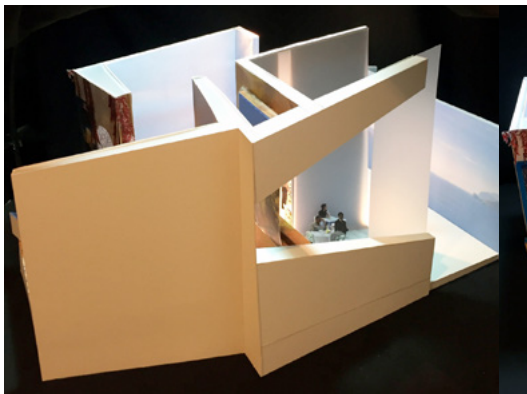
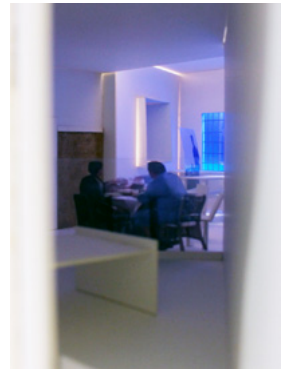
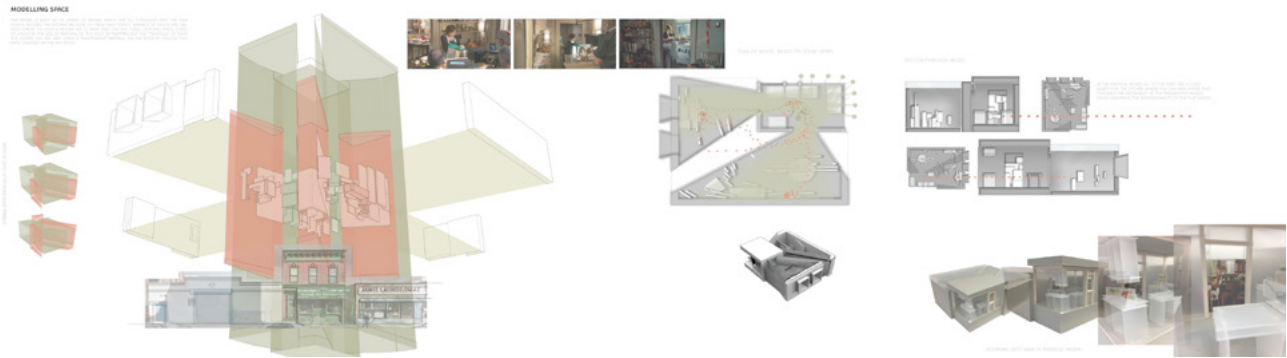
The workshop was introduced as a focus study in preparation for a design brief involving the rehabilitation of a derelict building in Oxford to be converted into a community-based street food restaurant. Students selected significant dining scenes and food preparation sequences from movies that used food as a metaphor for social aggregation/exchange. The scenes’ settings were re-modelled objectively in scale, and then ‘distorted’ with a series of perspective adjustments to recreate the films’ visual atmospheres, in effect overlapping subjective dioramas within the

‘objective’ framework of the models. This procedure allowed the students to understand the requirements of subjective settings in a street restaurant, as they had learned first-hand in their field trip in Palermo, where they investigated the novelty of the Street Food movement by discussing with street food restaurateurs, clientele, and local designers and academics.

In the students’ dioramas, fictional space became an emotional space, confirming Giuliana Bruno’s argument that architectural space and cinematic spectacle are correlated, among others in Le Corbusier’s description of *promenade architecturale*<sup>2</sup> as “an architectural spectacle offering itself consecutively to view, where the itinerary and the views develop with great variety under the play of forms and light” – which in turn was an explicit application of the montage techniques developed by experimental film-maker Sergei Eisenstein.

Dioramas models are commonly used for theatre and movie sets, and interior design mood-boards. Large-scale dioramas are often deployed for curatorial displays in museums, and in shop windows/display arrangements and merchandise stands. Throughout the 19th century, before the invention of motion picture cameras, dioramas were also known as a typology of entertainment buildings, providing an enhanced theatrical space that showcased exotic locations, naturalistic phenomena, and historical re-enactments by means of an array of ephemeral technical effects/displays.

Dioramas are not extensively used in architecture, where modelling is required to establish either exact (objective) or abstract (artistic/poetic) information about buildings. This case study proposes however



that the distinction between architectural models and dioramas is unnecessary, since subjective qualities are not opposed to objective parameters. As sociologist Henry Lefebvre noted,<sup>3</sup> social interaction connects inner awareness with physical places; thus immanent qualities should not be excluded in objective representation. Examples of built dioramas as effective representations of ‘variable’ space have been recently utilised in a series of experimental works, from Olafur Eliasson’s Tate ‘Weather Project’,<sup>4</sup> to the ‘Sensing Spaces’ installations at the Royal Academy,<sup>5</sup> aimed at constructing emotional environments.

Rowan Moore wrote an eloquent review of the Royal Academy exhibition, praising the innovative approach adopted by the curators in staging an architectural exhibition without conventional scaled models or drawings:

“There’s a terrible misconception about architecture, which is that it is a visual art. Yes, you can see buildings and photograph and film them, but a great deal of your experience of a given space has to do with its [... spatial qualities]. Architecture doesn’t work with one sense alone, but with synesthetic hybrids. Sensing Spaces is a heroic project to put these subtle qualities at the centre of attention.”<sup>6</sup>

Reversing the procedure utilised for the Sensing Spaces exhibition (where dioramas were built after ‘real’ buildings), the students achieved first abstracted essential spaces, and then designed ‘realistic’ restaurants that would effectively enact similar spatial atmospheres.

The ramification of the Diorama technique as a design tool for the education of architects were discussed at TORCH ‘Critical Visualisation Symposium’ held at the University of Oxford in May 2017. The students’ models were presented in the exhibition ‘(Re)constructive memory’ in London as part of the Festival of Architecture 2017, and in Interior Educators Freerange Show 2017 at the Truman Brewery.

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# How much 'life' goes into a Live Project? Botley School, Oxford.

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*Oxford Brookes University.*

**KEYWORDS** Design process, Design programme, pedagogy, funding, down-up approach

Botley Primary School in Oxford went through a process of expansion in recent years. Its current pupil intake is over 400 children and it is expected to grow to its full capacity of 460 pupils by 2020. During the renovation project undertaken at the school last year the existing canteen was left untouched. There is an urgent need to replace the underperforming building: a 1940's single skin dilapidated building detached from the main school building, carrying the dubious title of 'the most hated building in the school' by pupils and members of staff as one.

The canteen live project, which is at the heart of this case study, was initially set up as a design exercise for second year Interior Architecture students from Oxford Brookes University. The students were asked to provide design proposals for a renovated dining hall, based on the existing premises available at the school. It soon became clear that the emphasis should be on rethinking the design outcomes to accommodate very limited funding, a result of the austerity policy of the current government which plans to cut school funding by 8% by 2020 (the IFA, May 2017). The project's goals were adapted to include raising public awareness to the need for the expansion of the canteen as well as to provide a design platform for the school when seeking for funds.

The students, following our standard design process for live projects, met with school representatives, both staff and children and visited the site a few times between January and April 2017 to form a better understanding of the constraints.

The result of the exercise was presented in an exhibition at the existing school canteen. The exhibition presented twenty different design strips and models in various scales to better communicate the

design proposals to a non-professional public. Each strip presented a student's design proposal for the site.

The exhibition was successful in raising parents' and school governors' awareness to the acute issue of the canteen (many parents, for example, had never visited the canteen prior to the exhibition), but it also gave rise to two important issues which we needed to discuss and further develop.

The first one is of a pedagogical nature. Should the student output be a *design proposal*, i.e. a set of architectural design drawings? Or should it be a *design programme* which may communicate better the nature of the design proposition, in which the student not only responds to the client's brief but also offers a solution which encompasses a wider set of considerations that are often overlooked or oversimplified when setting up the initial brief. In other words, should we expect design students to develop and portray solely their design skills, or should we expect a student's proposal to include a level of social responsibility in their design process, and subsequently their design solution? The former option would suggest a designer role to be reduced to one that is mainly measured on visual merits, downgrading the role of architectural education.

The second issue arising from the project is of a more pragmatic nature. The students went to great lengths to find innovative design solutions which would support a wide variety of funding options.

These included incorporating other users of buildings from the local community, an option which would comply better with the criteria of community-based funds such as the lottery fund and design proposals of flexible spaces that accommodate other school activities which at present, the school struggles





to accommodate.

Finally, in the process of surveying the school; its physical and human context, the students came to realise that the parents of the school children - representing the diverse nature of the local community - work professionally in many areas which could potentially contribute to the erection of the new canteen if an alternative mode of operation was to be considered. The range of professions included architects, builders, brick layers, carpenters, graphic designer and other professions, which could be employed at different stages of the project.

Thus the next challenge should be to use the enthusiasm and the sense of empowerment which the students' project successfully injected in the school to initiate a second stage of a community co-building project and to explore better what the implications may be and whether there are relevant precedents which were already put to test successfully.

In our Interior Architecture programme at Oxford Brookes University we often use the live project as a way to imbue 'life' and a sense of purpose to projects which would otherwise suffer from acute lack of resources and therefore a poor implementations of needs. This project provided a chance to reconsider the amount of 'life' we could pour to a community through the model of a 'Live project'.

# Artkitecture.

DAVID SHANKS AND CAI JIA ENG.

*Ealing Makers.*

**KEYWORDS** education, making, inclusion, construction, co-production

## Introduction

'Artkitecture' was a week-long workshop which took place at St. Augustine's Priory, London in August 2016. It gave children aged 7-17 an introduction to architectural principles which they would not otherwise encounter in school. The workshop drew upon the technology of kites, and led to the construction of pavilions using stable modules with reference to the work of Kengo Kuma.

Activities included drawing sessions, short lectures, kite-making and flying, screen-printing, scale model-making, building component construction and on-site assembly, concluding with an exhibition of all outputs for parents and relatives at the end of the week.

The primary aim was to provide an intense learning environment where knowledge was acquired through experience and grades had no importance. We felt strongly that physical exercise and experience of equipment (drills, saws and other hand tools) and materials (bamboo, fabric, zip ties, rope) were important to a sense of enjoyment and achievement. This was about 'making your own fun' with a large helping hand, without all scope for making mistakes being designed out.

## Towards a building

While kite making and screen-printing were memorable and energetic components of the workshop, these were relatively low risk in terms of guaranteeing outputs and will not be discussed in detail. The dependencies leading to the construction of a building needed much more careful consideration, especially when allowing for apparent or real freedom in design, and for variation in weather conditions.

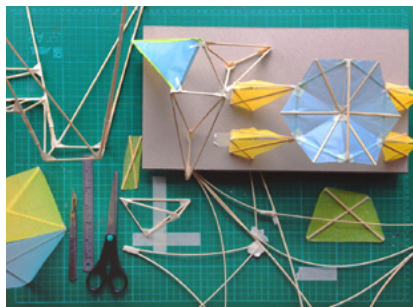
A partial precedent for the structural system was Kengo Kuma's 'Casa Umbrella' (2008),<sup>1</sup> a geodesic dome built in Milan for the Casa Per Tutti (Housing

for All) festival where bespoke umbrellas could be zipped together into a lightweight shelter. The local stability of its umbrella module appealed – it seemed comprehensible as a building element and easily manoeuvred. Its ability to be easily aggregated into a structure with global stability was also appealing, although the deterministic nature of this geodesic form seemed at odds with the need to accommodate the inventiveness of our workshop participants. Thus a set of three complimentary kite-shaped forms were derived through prototyping prior to the workshop. These forms could be attached together to make a variety of stable modules, which could then be connected to other stable modules to create larger structures.

As preparation for creating these forms, the students were taught the principles of tension and compression through whiteboard exercises where they annotated load paths and bending moments on projected precedent images. This worked remarkably well, with the youngest students completing the exercises and annotating further parts of the images successfully without guidance. Our pre-designed building parts were then introduced at 1:1 and explained in terms of the forces they acted under.

At this point the mathematical principle of architectural scale was explained, and seemed quickly understood. Students then measured our prototype pieces against laser cut 1:20 versions we'd prepared earlier. Each student was issued with a replica of the school's outdoor stage to serve as a site, and a fistful of scale parts to assemble into their own design. This had only modest success as a generator of directly buildable proposals, since liberal application of tape and glue enabled many structures which were difficult to scale and didn't utilise tension as a lightweight structural device. This exercise however had great successes in







terms of engagement: the students became engrossed by the tool of scale modelling and found great figurative and decorative potential which hadn't been programmed by us into the provided components.

Full scale versions of the building parts were then produced, by division of labour into sawing of bamboo lengths, drilling and zip-tying, perimeter tensioning and application of coloured mesh. These manual tasks took place at four stations which students had opportunity to rotate between, to learn different tools and techniques and discover. We then demonstrated methods of joining the produced parts into inherently stable structures which could then be aggregated further and inhabited. Two teams were formed, who worked together first to develop new 1:20 models, then to create a proposed structure for development outside.

Construction took place on and around the existing outdoor stage of which the students had produced a site plan. Their drawing included a sun path plotted with help of an augmented reality app,<sup>2</sup> and animal habitats marked with leaves and feathers found on site. With reference to this the two developed proposals were sited to provide shade and to respond to the direction of approach through the meadow from the school building. One structure was a cluster of freestanding shells, sitting mostly upon the existing stage to provide a lunch spot, and the other was a pair of umbrella structures, linked at high level and guy-roped to the ground. Both required some internal geometric bracing for stability but otherwise arose from physical prototyping or scale modelling respectively.

## Conclusions

As self-critique, our method of producing a structure required overly prescriptive exercises. The somewhat Fordian assembly line of building components arose out of the necessity to fabricate multiples, and a romantic desire that all students had substantial ownership of the project through their investment of labour. It did have unexpectedly positive outcomes – understanding both how things were made and, in the case of one bossy ten year old understanding how making could be managed – but nevertheless this could be seen as an example of how prescriptive the learning experiences could easily become. In the future it would be desirable to create open-ended systems to support more student-led outputs, with a lower overhead of preparation and planning.

Regarding the structural success of the building system, joints where more than three bamboos joined together required abundant zip ties, and were never completely solid, introducing alignment errors into the structure. The plastic mesh became cosmetic rather than acting as a diaphragm – components were tensioned around perimeter with yarn, a somewhat elastic material which introduce further flexibility into the structure. If the course were repeated, further experimentation with the material and structural system would be carried out.

On the basis of consistently positive feedback from parents and participants, and intense personal gratification, it is hoped that future workshops will be run. The Artkite template could certainly be honed and different themes have also been mooted, as fresh vehicles to explore our observations and pedagogical aspirations.

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# Oxford Human Rights Festival.

**ANGELA HATHERELL.**

*Oxford Brookes University.*

**KEYWORDS** Festival, Student Led, Cross Disciplinary

The Oxford Human Rights Festival is an initiative of CENDEP (Centre for Development and Emergency Practice) students within the School of Architecture at Oxford Brookes University. These students are doing either the one year MA course in Development and Emergency Practice or in year one of the Postgraduate Architecture degree course, MArchD following this particular 'research into design' specialisation.

In recent years the Festival committee membership has also been opened up to students across the University, with undergraduates on courses as diverse as Law, International Relations, Business and Marketing, Event Management, and Film Studies, taking part.

The aim of the Festival is to raise awareness of human rights issues through the arts and, while predominantly a film festival, also includes exhibitions, live performances, workshops, talks, and poetry.

The student committee curates the Festival around a theme which emerges from the reflective feedback of the previous year's student committee, creating continuity from year to year and from one group of students to the next. In March this year we held the 15th annual festival here at Brookes, the theme of which was Home. The students began the curating process by brainstorming the question "what does Home mean to you?" They thought about this in terms of current global issues of indigenous land rights, refugees, and people displaced by war and conflict, and in terms of how it related to modules they were doing such as Shelter after Disaster. They also linked the theme to issues closer to home by looking at austerity and homelessness in this country, and also by thinking about their own personal situation, as students displaced from home either temporarily or long term, while they complete their education and develop their careers.

They developed a programme based around these ideas. The students from other disciplines, especially Film Studies, contributed a different perspective to the Architecture students, coming together with complementary skills and experience. This year one of the Film Studies students attended the London Film Festival and presented a range of films screened there back to the rest of the committee which, in her opinion, fitted the themes identified. She argued that more mainstream films such as *American Honey*, about a group of disenfranchised teenagers travelling across the States, could be viewed as looking at homelessness and displacement. This was very different to the way to John Pilger's *Utopia*, for example, looks at indigenous rights in Australia. The Film Studies students were particularly interested in getting film makers to introduce and talk about their films, whereas the MA and MArchD students favoured more academic panel discussions around the themes raised in the films. However both sets of students agreed that they benefitted from the others' expertise and perspective.

As well as programming, the students were also responsible for publicity; logo and poster design, as well using Twitter, Facebook and Instagram, and being interviewed on the University radio station and local television. The students also curate an exhibition around the theme in the Faculty's Glass Tank gallery space. The exhibition usually includes work by different artists and makers, as identified by the students, but in 2015 the students worked with former Head of Graphics for UNICEF, George McBean, to curate a retrospective of his life and work with pre-literate communities in East Africa and Nepal.

*"The Oxford Human Rights Festival was the best part of my final year experience. I was extremely impressed with CENDEP's unique and diverse range of studies, from disaster management to human rights. The*



*CENDEP students' work ethic behind the scenes of the Festival motivated me to do my best.*—Aiysha Whitfield, BA Film, Media and Communications.

Collaborative and cross disciplinary working is fundamental to the ethos of the Festival, with some events presented jointly with other groups across the university. These events have included a screening of *He Named Me Malala* with the Oxford Brookes Documentary Club, an open mic poetry evening with the Oxford Brookes Poetry Centre, and a film screening and talk about the artist Claude Cahoun with the Brookes LGBT+ Forum and the curator of the Glass Tank gallery.

The Oxford Human Rights Festival offers Architecture students an opportunity to extend their learning beyond the scope of their usual design based academic boundaries. It gives them the chance to take responsibility for a live project which they can see the immediate results of, and the opportunity to collaborate with students from other disciplines, utilising their strengths in design and creativity, while learning about the logistics of event organisation and curation. Researching and contacting speakers, whether they are film makers, practitioners or academics, and introducing events and speakers and chairing discussion panels and audience Q&As gives them confidence and ownership over specific events. “It was great to feel responsible for a specific element.”

Harry Tuke, MArchD.

Twitter: @OxHRF

Instagram: @OxHRF

Facebook: [www.facebook.com/](http://www.facebook.com/oxfordhumanrightsfestival)

[oxfordhumanrightsfestival](http://oxfordhumanrightsfestival.net)

Website: [www.oxfordhumanrightsfestival.net](http://www.oxfordhumanrightsfestival.net)

University website: <http://architecture.brookes.ac.uk/research/cendep/hrff.html>



# OSA Magazine

**JAMES BARRELL**

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**KEYWORDS** magazine, student-run, agenda, debate, discussion

OSA is a student-run independently funded magazine published by students at the Oxford School of Architecture (Oxford Brookes). The magazine was founded by a small group of students, supported by staff, in 2014 as a response to the need for a publication that documents and shares the varied and exciting agendas students and staff are pursuing in one of the largest schools of architecture in the UK.

OSA is a platform for all students and staff, providing the opportunity to connect undergraduates, postgraduates and PhD students like never before within the school. In addition this, the magazine is enriched further by contributions from alumni, practitioners, external academics and a multitude of individuals whose work goes beyond the traditional realms of architectural discourse. For example issue 5 of the magazine; 'Departure' featured articles by senior lecturer at the Royal College of Art, Harriet Harriss and Marcus Fairs, editor-in-chief of online magazine Dezeen.

A printed version of the magazine is produced twice a year with additional content uploaded to an active blog and social media presence.

Each magazine is defined by a theme, varying from 'Departure' to 'Craft', 'Senses' to 'Subtext', students decide this theme with guidance from magazine sponsors. Each theme intends to be broad enough to allow for a range of different articles and yet reflect a particular mood or event that affects architecture and beyond. For example 'Departure' allowed students to tackle topics such as 'Brexit' and its impact on the profession, the growing refugee camps in Calais and how architecture should respond to this; experiences of students emigrating to the UK to study; and diaries of students working and travelling abroad. This demonstrates the scope of work published by the magazine and the potential it has to connect students

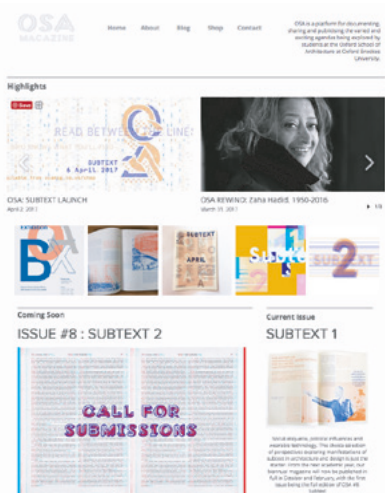
to a wide variety of agendas.

The production of the magazine is divided into teams responsible for graphics and editing often with experienced students in the team teaching the others the skills involved with the production of the magazine. Two editors, usually selected at the beginning of the academic year, oversee the whole process. Beyond the initial start-up, staff input has been minimal, moreover the funding for the magazine is provided by sponsorship from architecture practices raised by the editors at the beginning of the year. This allows the magazine to have no commitment to the university and connects students with practice, who often encourage students to push boundaries and take risks with the production and content of the magazine. The magazine cherishes this freedom as it provides students with the opportunity to speak frankly about issues that matter to them.

The print edition of OSA is a crafted document produced by students. It is printed at a local activist press, Oxford Greenprint, who teach students how to operate printing equipment, and then students using a variety of different techniques bind the magazine. The making of the magazine is a cathartic exercise that allows students to materialise their efforts. In the digital age, a print magazine creates an everlasting object that is a record of the time and place it was produced.

In the future, OSA hopes to build on its existing success by growing its readership and reaching out to younger students who seem less engaged. Additionally, the magazine also hopes to legitimise its work further through the acquisition of an ISSN (International Standardised Serial Number), which will hopefully encourage more contributions from outside the school.

The magazine allows students to build connections to the wider architectural world, providing them with



the platform to debate, challenge and contribute to issues that go beyond their architectural education. Editing or writing the magazine grants students access to the wide breadth of opportunities that architecture possesses and helps them to develop a critical opinion. This helps with their career development and confidence to pursue an area within the field that they find interesting and satisfying. OSA is more than a publication, it is a community that unites and confronts students with similar or different opinions and contributes to giving them a more rounded education.

# Kitchen-Hub.

**NINA PAWLICKI.**

*Habitat Unit, Technische Universität Berlin / CoCoon-Studio.*

**KEYWORDS** DesignBuild, Inclusion, Activism, Transdisciplinarity, Forced Migration

The KITCHEN-HUB is a place for refugees and local residents in Berlin Schöneberg, designed and built by students and lecturers at the Technische Universität Berlin and run by the initiative *Über den Tellerrand*. The design reflects our approach: it is a tool to support the agency of refugees as urban actors. A modular toolkit can address a multitude of use requirements flexibly, including cooking classes run by refugees, workshops, discussion rounds or community meetings. People with refugee and non-refugee background cook, eat, work and think together. They create a place of coexistence and mutual exchange, where refugees are not only welcome but become active in shaping urban spaces.

*Über den Tellerrand*, literally translated as 'Out of the Box', is a community working for cultural exchange between refugees and locals. The aim of the organisation is to build a space and shape an experience where diversity and mutual acceptance is taken for granted. The group started with a culinary initiative in 2013, releasing a cookbook, which contains 21 international recipes collected from refugees during their visits to the refugee camp in Oranienplatz in Berlin. After the success of the cookbook, *Über den Tellerrand* wanted to continue to shift the stereotypical perceptions of refugees; so they started cooking classes led by refugee chefs in different places. Besides the cooking classes, they have organised a variety of community meetings such as football games, communal cooking sessions, and language exchanges. They got in contact with the CoCoon-Studio and Habitat Unit at the Technische Universität Berlin. Together they could develop the idea about establishing a permanent space where their activities could take place on a daily basis: the KITCHEN-HUB.

The project started off during Summer Term 2015 in the framework of the Design Studio *Refugee City*:

*Cooking with Refugees in Berlin* that explored the world of the refugees and asylum seekers in Berlin taking the cultural, social and practical dimensions of shared cooking as a starting point to develop architectural and urban design solutions on variety of scales. The work was based on direct experience with refugee communities and the documentation of their needs. One of the project proposals was then taken further during a Summer School, with first pieces of the furniture toolbox being designed and built. Since the inauguration in November 2015 the place serves as a transdisciplinary laboratory for the project team. During the following Winter Term 2015 - 2016 an urban gardening project, the INSELGARTEN, was initiated together with a local neighbourhood initiative as a spatial extension for the KITCHEN-HUB.

## Aims

80,000 refugees arriving to Berlin in 2015 have caught the municipality ill-prepared. The city's slow and uncoordinated response to this unexpected influx has been the subject of intense debates and critiques. Yet the real challenge - establishing interlacing forms of living together - still lies ahead. In many cases initiatives of civil engagement are taking over this so-called integration work. As residents groups, volunteer associations or social entrepreneurship models they form an integral part in the system.

Realised in a close collaboration between one of these initiatives, *Über den Tellerrand* and academia the KITCHEN-HUB was established as a transdisciplinary laboratory. Therein we seek to think beyond the narrow and sectoral way of housing refugees. How can living-together work to the advantage of both, new and old neighbours? How can we mobilise new urban actors in order to co-produce more inclusive and socially sustainable neighbourhoods?





Cooking Class; Photographer: Laura Florio



Cooking Class; Photographer: Laura Florio



Arabic night setting; Photographer: Laura Florio



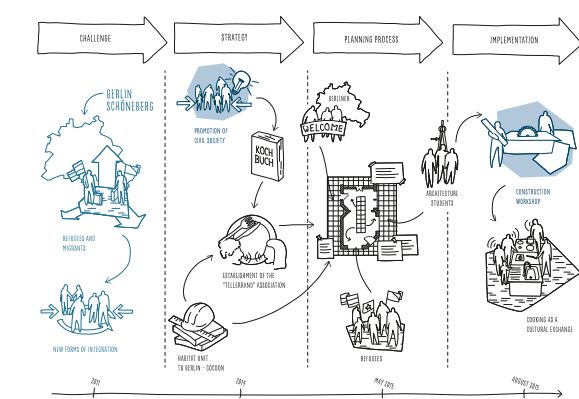
Inselgarten; Photographer: Leonie Hock



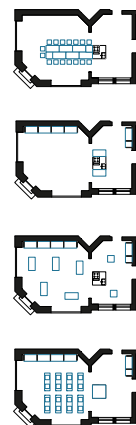
Table Boxes; Photographer: Laura Florio



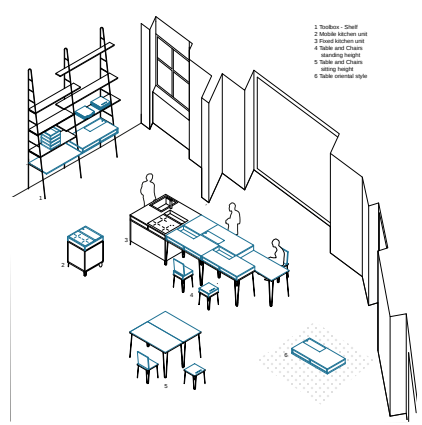
Construction workshop; Photographer: Laura Florio



Process timeline; Author: Luca Mulé for Urban Catalyst Studio



Kitchen-Hub toolset



### **Methodology**

The KITCHEN-HUB was realised in a close transdisciplinary collaboration. It was designed and built during a Summer School in 2015, building on the experiences and outcomes of the Design Studio Refugee City: Cooking with Refugees in Berlin. The students were given the task to cook with refugee communities in Berlin and document their experiences and reflections via hand-drawn sketches. These served as a basis for the further reflection on cooking and sharing a meal not only as a basic need but at the same time as a moment for building ties within the family and the community, for cultivating the customs of the land left behind, for restoring body and soul. Project proposals ranged from kitchen furniture, communal spaces, the organisation of refugee housing, and refugee-driven urban economies. One of the proposals that was developed was then realised in an intercultural team with participants with and without refugee background and at different levels of academic education. The building process itself served as a means of intercultural translation.

### **Findings**

Following a series of DesignBuild projects realised abroad, the KITCHEN-HUB was the first project realised by the CoCoon-Studio in a Berlin context. Though this made an impact on the intensity during the building phase it also triggered an on-going, long-term engagement for the place and incremental development process of the project.

### **Outcomes and Impact**

The collaboration had made it possible for the, back in 2014 just recently founded, initiative Über den Tellerrand to become operators of their own space and therewith realise and test their ideas of living together. Since then the organisation is constantly growing, with some participating students still active in the field. A third cookbook was just released, several new programs were started, and a travelling kitchen container was designed and built in 2016 by students of FG Fioretti at Technische Universität Berlin. Today, over 25 satellite groups have been established all over Germany and Europe, two of them are just about to install their own KITCHEN-HUB.

# Escaleras Oasis Tropical.

**NINA PAWLICKI.**

*Habitat Unit, Technische Universität Berlin / CoCoon-Studio.*

**KEYWORDS** DesignBuild, Co-Production, Activism, Transdisciplinarity, Urban coding

The Escaleras Oasis Tropical were realised in the framework of the Urban Lab Medellín I Berlin. As a Think&Do-Tank, this initiative aims to create a network of students of architecture and urban design, architects and planners as well as actors from the civil society, governing bodies, academia, the economy and cultural realm from Colombia and Germany through workshops, seminars, symposia and built interventions. It was initiated by three students of architecture, two of them recent graduates. In a close collaboration with lecturers from the Habitat Unit, TU Berlin and the Universidad Pontificia Bolivariana in Medellín the project was set up as a transdisciplinary laboratory.

Medellin and Berlin are characterised by very different regimes of planning and participation as well as formal and informal urban change processes. Yet these defining differences offer an opportunity to interrogate planning approaches in both contexts and develop new instruments: Can Urban Coding be a shared approach to guide transformation processes towards more inclusive, co-produced, sustainable and urban neighbourhoods?

As a first phase for an urban coding process a spring school was organised in March 2017 in the favela Moravia, Medellín.

Over the three weeks, students and community leaders were working in mixed teams on a critical analysis and observation of the neighbourhood. An urban intervention, the renewal of one of the most important pathways in the neighbourhood - the Escaleras Oasis Tropical - had an important role in the process. The staircase with its 108 steps connects two important streets and had become completely run-down over the years. Local residents considered it as a dangerous places due to many accidents and incidents that had happened and were fighting for a long time for

its renovation. Within three weeks it was completely renewed by the community, students, local artists and experts.

The student teams from Berlin and Medellín then reflected on their experiences and developed proposals in the framework of two design Studios at their host institutions. The collaboration went on in July 2017 with a Summer School in Berlin. Community leaders from Moravia as well as the students from Medellín spent three weeks in Berlin to discuss their work and exchange ideas regarding the further process of the project and beyond.

## Aims

The Urban Lab Medellín I Berlin aims to strengthen the agency of local residents in Medellín and Berlin through urban coding, especially regarding future planning and relocation processes. Urban Interventions, such as the Escaleras Oasis Tropical projects form an integral part of the work.

## Methodology

Urban Coding is a method to steer the spatial transformation of urban areas. Contrary to conventional building and development codes it aims to include also informal elements, thus strengthening the agency of local communities and individual actors. Urban Coding supports processes of co-production, i.e. the cooperation between actors with different aims and rationales such as local residents and initiatives of neighbourhoods, private developers and responsible local governing bodies. The role of architects and planners in this process shifts from defining finite visions and plans, towards curating and guiding the open-ended negotiation processes of Urban Coding while ensuring as external arbiters that the complex and interdependent social, ecological and economic





The finalised Escaleras Oasis Tropical; Photographer: Carlos Alvarez



Construction works; Photographer: Benjamin Förster-Baldenius



The finalised Escaleras Oasis Tropical; Photographer: Carlos Alvarez



Painting the walls; Photographer: Karl Becker



Construction works; Photographer: Nina Pawlicki



The escaleras before the Spring School; Photographer: Albert Kreisel



elements of local urban ecosystems are secured and developed.

As a kick-off to the coding project the urban intervention is an important element to establish an *a priori* common ground for all following investigations. All stakeholders should be involved in the design and build process of the intervention. Its goal is to entice the local community to engage in the coding process and to raise the awareness and understanding of all actors. The intervention met a specific need in the local community. Furthermore it ideally functions as a visual trigger for the entire coding process.

Argos, Alcaldia de Medellín, Tronex.

### Findings / Outcomes / Impact

To facilitate the exchange of views and ideas, a forum of communication needs to be established which brings all relevant stakeholders to the same table. The structure of the forum should be as open as possible to allow for a free exchange and to prevent parties which are resistant to change to block the process. The forum should include the local community, relevant local actors, potential private stakeholders, architects and planners, representatives of relevant governing bodies. The small scale intervention is seen as an important element to establish an *a priori* common ground to kick-off the forum discussion. The reactions towards the Escaleras Oasis Tropical intervention surpassed many expectations. Beyond the infrastructural improvement they also became a place for social interaction and small scale local economies like a juice shop within the first days after completion.

Team: Maximilian Becker, Albert Kreisel, Tobias Schrammek (Urban Oasis), Nina Pawlicki, Prof. Dr. Philipp Misselwitz (Habitat Unit), Florian Köhl, Christian Burkhard (Quest), Prof. Alejandro Restrepo Montoya (Pontificia Universidad Bolivariana), Prof. Jochen Rabe, Alina Schütze, Anna Wilk-Pham, Elena Rocabert, Jakob Näscher, Jonas Wulf, Ann-Marie Matzke, Michel Cordes, Valentina Nadwornicek, Anne-Florence Seele, Kim Annaluz Gundlach, Karol Stern Rull, Sabrina Baschinski, Stefanie Lennartz, Moritz Ahlert, Benjamin Förster Baldenius, Sabine Müller, Prof. Alejandro Restrepo Montoya, Dayana Zapata Hernandez, David Garzón Gómez, Camilo Cadavid Rodriguez, Simón Jaramijó Alvarez, Sara Arango González, Daniela Vasco Tabares.

Supporting Organisations: Alfred Herrhausen Gesellschaft, Arch+ Verein, Dt. Botschaft Kolumbien,

# Architecture as Social Process. Making Connections

FRANCES CROW.

*SADI, Falmouth University.*

**KEYWORDS** participatory design, engaged practice, making, radical pedagogies

In July 2017 our first cohort of architecture students received a degree in architecture and took the next steps towards their own architectural practice. In today's globally connected, peer-to-peer, de-centralised society we have aimed to create an environment within the degree that encourages the students to question the changing relationship between the architect and the 'user' and reconsider the practice of architecture within our contemporary professional context. Underlying De Carlo's 1972 call for 'contemporary architects' to make architecture that comes from the 'user', is a focus on the process of 'doing' architecture with those who will go on to live with it and change it over time.<sup>1</sup>

The University itself has a strong history in arts practice and is remote from the urban centres of traditional architectural education. We have drawn heavily on this 'outsider' position – which the location encourages – and looked to an engagement with architectural processes that are on the edges of established practice and education. This has led us to focus on 'making' as a primary element of the course and the introduction of a full-scale design and build project in the first semester of the first year.

The University is also based in a region that has one of the highest levels of economic and social deprivation in Europe. Therefore a core teaching premise is to work on 'live-projects' within the surrounding communities. These live projects while providing the student with valuable insight into real issues, also allows the community to benefit from creative proposals to complex issues. Outcomes from the projects across the years include; full-scale built structures, design ideas and developed proposals that can contribute to 'what if...' scenarios and engage the wider community in

future visions for the environments in which they live, work and play.

As part of this approach we have developed a live-project structure that enables students to develop a design process through which they can gain valuable feedback from a community, while contributing to a dialogue about the potential for their design ideas to support the wider community's vision for their own neighbourhood. Included within this structure is *Connected Communities* a participatory design workshop that enables us to write project briefs in collaboration with the students and the communities in which we work.

## Connected Communities

Connected Communities is a two-day public workshop, which uses participatory design practices to look at ways of connecting disparate communities within towns, and considers possible futures for their town centres.

For *Connected Communities: Penryn*, we invited people who live and work in Penryn to talk and work collaboratively with the first and second year architecture students over a two-week period. As part of the process the students engaged in drawing out – metaphorically and literally – interventions in Penryn that would contribute to a sustainable and vibrant vision for the town.

## Talking and Walking

With a welcome from the Mayor and a challenge to the group to think beyond the conventional proposals, members of the Penryn community presented their ideas and visions for the Town. These presentations included a summary of reports and design guides



commissioned by official bodies, alongside ideas and proposals from local businesses and organisations and a series of personal views of living and working in Penryn. Students were then invited by three Penryn residents – local historians Chaz Wenmouth and John Kirby and artist Simon Persighetti of Wrights and Sites<sup>3</sup> – to join them on a series of walks around Penryn. Through these walks and talks the students engaged with the locality through the embedded perspective of the resident.<sup>4</sup>

### Drawing Out<sup>5</sup>

On the second day, students and Penryn community members worked on a 'big map' to identify sites that they thought would be important to focus on (see Fig. 2). Ideas for these sites were then drawn out onto an A1 map of the area to become the 'brief' for the students to draw up in the afternoon, with the drawings exhibited at the end of the day.<sup>6</sup>

Some of the resulting ideas focussed on slowing down or stopping traffic using 'Commercial Road' as a route from Falmouth to Truro. One group proposed flooding this road so that it became a canal; stopping the traffic and bringing the waterfront into Penryn. Another group designed a linear park and market creating a link between an under-used car park and the town centre. Following the workshop the Mayor took this proposal to Cornwall Council to seek a way of opening up the link.

### Interventions

These initial ideas were used as the catalyst to develop design proposals for a community building for Penryn. Seven weeks later the students exhibited the forty-one design proposals at a local community hall.

The students' proposals addressed ways of drawing people into the heart of Penryn and connecting the town centre with 'Commercial Road'. Proposals varied in typology from swimming pools, a transport interchange, libraries, museums and a series of event spaces. A number of the projects looked at how the existing Penryn community and the new student community might integrate. Other projects looked at access to the Penryn River frontage and all of the proposals contributed to a vision for making a sustainable and vibrant Penryn.

This first *Connected Communities* project was run within the University town in 2015/16 and the

design ideas are now contributing to the evidence base for the town's Neighbourhood Plan.<sup>7</sup> The student's work will sit alongside ideas that come from a citizen participation project 'Taking Control of My Town',<sup>8</sup> a community animation project called 'Re-Imagine Your Town'<sup>9</sup> and existing community group projects.

Using the local context as a catalyst for this live-project work has helped our students to develop a socially engaged design process, which we hope will enable them to engage in 'eclectic'<sup>10</sup> working practices that in time, will disrupt conventional architectural practice.

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- 3 Persighetti, S. < <http://www.mis-guide.com> > [accessed 26 June 2017].
- 4 Evans, J. and Jones, P., 'The Walking Interview: Methodology, mobility and place', in *Applied Geography* 31 (Elsevier 2011), pp. 849-858. They conclude their paper with the qualification that 'Walking interviews have been demonstrated as a highly productive way of accessing a local community's connections to their surrounding environment. This is critical because people's relationships with place keys into contemporary policy issues surrounding sustainability.' Pp 857.
- 5 In the initial stage of 'drawing out' both the students and residents were presented with a floor-sized sheet of blank paper. It became the process by which their joint experiences from the earlier walks could be documented. Once the roads and words were marked on the sheet, members of the community were asked to stand on the map at the point at which they would like the students to intervene. The students were then invited to join the community member at that site on the 'big map'. The later stage of the 'drawing out' process became the creation of a visual document that represented the joint vision for these sites.
- 6 Evans, J. and Jones, P., 'The Walking Interview: Methodology, mobility and place', in *Applied Geography* 31 (Elsevier 2011), pp. 849-858. They note that it is unusual for participants to be involved in the analysis of the resultant maps from their walking and talking interviews. The Drawing Out process offers a way for



participants to become directly involved, in the analysis of the research. Pp.852

- 7 <<http://www.planforpenryn.co.uk>> [accessed 26 June 2017]
- 8 Johnstone, P, 'Penrynopoly will be popping up this weekend.' *The Packet*, 7 November 2017. (2017)
- 9 'Reimagine your Town' <<https://reimagineyourtown.org>> [accessed 24 January 2017].
- 10 Ash, C. & Sakula, R. 'An Eclectic Pedagogy', in *Radical Pedagogies: Architectural Education and the British Tradition*, ed. By Daisy Froud and Harriet Harriss (RIBA Publishing, London 2015), pp. 124-131. They call for architecture graduates that have 'the ability to take stock of a situation and a user requirement, to make a creative leap into the dark, and thereby, alchemically, to synthesise a solution to a human need for space, utility and enjoyment. This is the crucial skill ... because it makes them a 'strange necessity' ... in the otherwise desperately pragmatic construction industry'

# The City as a Learning Platform.

RUTH CUENCA, JUANA CANET, ELENA GÓMEZ.

*Estudio SPN.*

**KEYWORDS** live projects, learning by doing, digital platforms, urban design, bamboo

## Background

Guadua Activa<sup>1</sup> workshop took place over a weekend in October 2014 in a community-managed public space in the centre of Madrid. It was a self-initiated proposal by Estudio SPN and Eugenia Muscio in collaboration with Ciudad Escuela.<sup>2</sup>

Ciudad Escuela is a pioneer open-source urban pedagogy project founded by various Spanish collectives of architects and technology experts that turns citizens into teachers and students. It questions how and who makes cities today, and what types of learning are at stake. Ciudad Escuela's pedagogy aims to make visible the resources, learning and knowledge that multitudes of people and communities are already deploying towards the construction of a better city. The city is their campus. It uses workshops as a way of bringing people together to discuss and learn from each other. It is supported by the internet and the Open Badges<sup>3</sup> technology of the Mozilla Foundation to design a series of pedagogical itineraries that discover and value other type of interventions in the cities creating networks and connections. Open Badges are online representations of skills gained by anyone through a variety of experiences. Each badge earned contains data about the skills and the issuing organisation. Badges can be displayed and shared online, helping people find out more about each other's knowledge and enabling sharing. The badges showcase the importance of unregulated learning in the internet age. There are 15 different Badges in the Ciudad Escuela platform which are considered 'learning units' on the skills, knowledge and tools that are important to build a better city. Guadua Activa<sup>4</sup> emitted the 'Sustainability & Management' badge to participants.

## Where?

El Campo de la Cebada<sup>5</sup> / Cebada Square is a community-managed public space in the historic centre of Madrid. The site used to be a public sports hall which was demolished in 2009 with the idea of building a new one but the financial crisis stopped the project. The community was left with no sports facilities and a hoarded empty 5,500m<sup>2</sup> site sunken from the street level.

Since 2011, the local community in collaboration with collectives of architects have been managing the space as a place for social and cultural activities open to everyone. They have built street furniture, a stage and allotments and have organised film screenings, theatre plays, workshops and other events such as TED talks.<sup>6</sup>

There is a strong connection between Ciudad Escuela and Cebada Square, one could argue that the square is the main physical 'campus' of Ciudad Escuela.

## What?

In the above context, we proposed Guadua Activa as a hands-on building workshop open to everyone to participate and to learn about construction with bamboo; aiming to create a scenario of collaborative work among all participants, and a space for reflection on new forms of urban design and the use of public space.

Through our connection with the community of the Cebada Square, we identified their need to provide greenhouses for the 'Urban Allotments' group which will also serve as seedbeds in winter. To achieve this we proposed to use bamboo cane as it is an appropriate and sustainable material for this use.

## Aims

Estudio SPN<sup>7</sup> is a research-led practice working between practice, research and academia. Our focus is



Campeo de la Cebada / Cebada Square, Madrid. Image by Zuloark

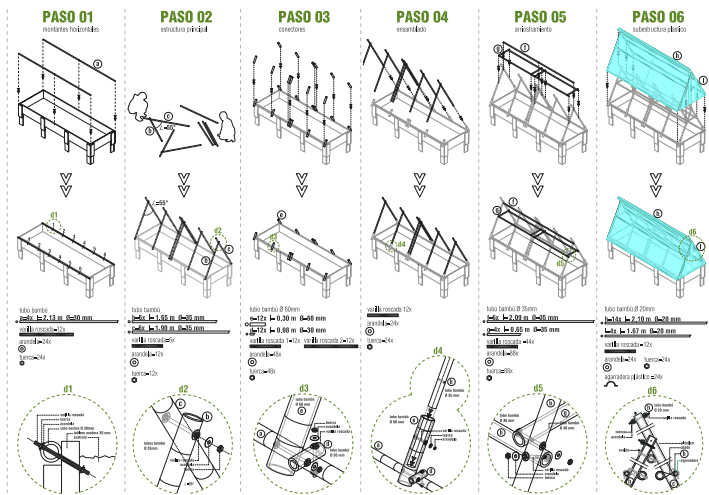
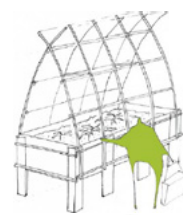


'Urban Orchard' in Cebada Square, Madrid. Image by Zuloark



Ciudad Escuela, open source urban pedagogy: online platform

# GUADUA ACTIVA, WORKSHOP IN BAMBOO CONSTRUCTION, CEBADA SQUARE, Madrid.



Guadua Activa workshop information by Estudio SPN



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on the fields of architecture, urbanism, participatory design and research with special interest in projects of community support through the design of productive cycles and strategies. Central to those strategies was the use of bamboo as a material. We had previously implemented these ideas in projects, competitions and workshops typically in Colombia where bamboo is local.

This workshop was testing some of our research ideas adapted to the urban context of Madrid with a small scale intervention over a short period of time. It aimed to disseminate our knowledge on the use of bamboo whilst working with a community that could benefit from it.

### Methodology

The workshop follows the principles of Experiential Learning (Dewey<sup>8</sup>; Kolb<sup>9</sup>; Schon,<sup>10</sup>), using methodologies of learning by doing and creating a space for reflection.

Due to the restricted amount of time, we developed a base design to be used as a starting point for discussion. The participants had different skills and backgrounds with a majority of architectural students but also some experienced architects and members of the community from other professions.

The group worked cohesively and we observed peer learning and 'reflection in action'. The group of 20 participants was mixed with 45% architecture students, 40% architects (some very experienced) and 15% a mix of other professions. Ages ranged from 19 to 55 with some children as additional helpers.

Funding was raised with registration fees (15€/person) to cover the cost of the materials.

### Outcome

The workshop was successful for a number of reasons. The brief was very clear and focussed on the material and the practical aspects of construction but allowing room for the participants to refine the design. The group worked well together, learning through making showing high levels of critical reflection. The Urban Allotments team gained two new greenhouses and seedbeds for their urban garden. Participants got their 'sustainability and management' badge and they shared their newly acquired skills with their online badges. This helped spreading the word about the use

of bamboo, the public space and the urban allotment initiative.

The fact that the workshop used the public space generated interest in other people using the square, and facilitated discussions and debate about public space in cities and other opportunities to use bamboo.

### Conclusion

This is a small scale project with a medium scale impact which is embedded and supported by a larger open source urban pedagogy project; Ciudad Escuela. It had a bigger impact in the Cebada square and the networks of community groups and urban and architectural activist groups that operate around it, as there was physical and human connection with the participants and the process.

We discovered the importance of 'non-academic' learning and the potential of establishing good networks, physical and virtual, to disseminate knowledge. These types of initiatives could be bridging the gap between universities and non-academic learning. They can become the tool that brings university and theory into practice, connecting with the user and contributing to the built environment. However for these interventions to have larger impact there needs to be more institutional and political support to all processes.



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# Making Place. Long Branch, Maryland, USA.

**RONIT EISENBACH.**

*University of Maryland.*

**KEYWORDS** ephemeral, public art, public interest design

Long Branch, Maryland is an underserved, diverse, multi-ethnic inner suburb of Washington, DC whose residents and businesses seek to affirm its identity in anticipation of rapid change. This neighbourhood is a primary destination for immigrant families seeking affordable housing and has numerous small businesses owned by community members. Plans for a new light-rail line connected to the DC Metro system are creating new tensions; although investment in the area is both desirable and necessary, current residents and business owners are concerned that increased values and new development will displace them. Long Branch is three miles from campus and is a community that the University wishes to serve.

In anticipation of this dynamic and potentially challenging transition, since 2010, UMD architecture professor, Ronit Eisenbach spearheaded a multidisciplinary Creative Placemaking effort that brought local community members and UMD students and faculty together. The process included the development of working methods for joining temporary architecture installations and exploratory performances as a means to understand a site-in-flux and to build community. The resulting designs elevated neighbourhood assets, community needs, and suggested ways to create and animate public spaces. These works created “spaces of rehearsal,” a low-impact way to try out new ways of being and making in the public realm.

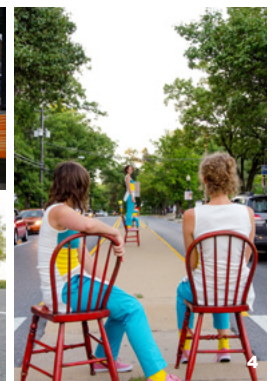
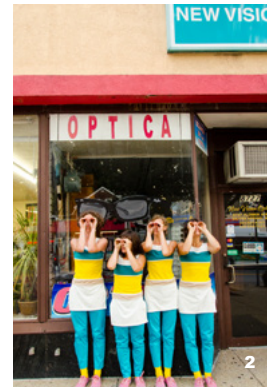
## Projects

UMD Placemaking efforts resulted in multiple projects. On Site was a public art/design studio co-developed by Architect Ronit Eisenbach and Sculpture Professor, John Ruppert that resulted in a block party and ten student designed site-specific installations. *Body/Space/Place: Site Specific Dance* was an in situ

choreography studio taught by Eisenbach and Dance Artist, Sharon Mansur. *Placeholders* was a professional installation/performance co-created by Eisenbach and Mansur. Public Projections, *Proyeccionnes Publicas* proposes to aid in planning efforts by gathering and sharing stories across difference in provisional public spaces created for this purpose and re-projecting this footage back into the public sphere at night.

*On Site* was a pilot studio course that guided art and architecture students in using public art and design to engage in a dialogue with the Long Branch community about their neighbourhood. The course offered a unique opportunity for Creative Placemaking in this neighbourhood, grappling with the potential opportunities and challenges of a new light rail line. After a careful analysis of the physical and cultural environment and rich conversations with community members and other stakeholders, students designed and installed ten temporary site-specific sculptures around the Long Branch Library and along Flower Avenue, the main shopping street. The work was celebrated as part of the first ever *Long Branch SuperBlock Party* created in partnership with the Long Branch Business League and Montgomery Housing Partnership. Our collective efforts brought vitality and people to Long Branch.

Participating in Long Branch’s annual Unity Festival, *Body/Space/Place Dance* students explored the intersection of movement and environment on a tree-covered hill next to the community centre. Their performance built on observations about the play of shadow, light terrain, and the ever-changing nature of place. Dancers also re-invented and re-inhabited, the Miles Glass Building, a local landmark and iconic workplace just before its demolition, celebrating its history and its demise. The building was removed to make way for a new road, deemed necessary to support





the new light rail line.

Placeholders followed the student work and culminated two years of research and relationship building in the community. This site-specific performance / installation explored what it means to seek, shape, and preserve “place” in the face of transition. Placeholders embraced this spirit of flux through its movement, sound, and architectural layers. This public, participatory event in Long Branch aimed to illuminate and celebrate the neighbourhood as it is today, on the cusp of change and growth. The performance affirmed what is essential to one’s sense of place in the face of transformation and reflected upon what it means to “hold one’s place” in anticipation of the future. A quartet of performers invited the audience on a stroll to the separate spaces within one block - the stores along Flower Avenue, the parking lot at the corner of Arliss and Flower, and the Flower Avenue Park. Eisenbach and Mansur altered these environments through movement choices and objects that reframed and refocused perception: yellow bamboo ladders leaned against light posts hung with newly installed flower boxes, domestic red chairs and folding tables were misplaced and misused, musical layers and audio material from other moments and places were added via Eisenbach’s *SoundBoxes* and parked cars, a horizontal mural on the parking lot offered alternative directions for motion, and wooden staffs shifted meaning with their placement and use.

### Impact

UMD art, architecture, dance students and faculty deployed ephemeral art, dance, and design to celebrate Long Branch and influence its future. These efforts ignited underused spaces, adding whimsy and delight that sparked conversation about public space and neighbourhood change. Students learned to analyse the physical and psychological meaning of place through interdisciplinary form-making and learned to employ art and design in the service of building partnerships and animating the pedestrian realm. The dynamic interventions helped visitors explore the community and shed light on issues that included litter, building spatial connectivity, beauty and delight. The unconventional forms of inhabitation and movement, bright colours, thoughtful placement, and innovative design approaches celebrated the neighbourhood assets and people, and highlighted the needs of a

community facing a dynamic transition.

Our collective efforts illustrated the many ways that ephemeral art and design can transform and activate place, creating shared experiences to stimulate public dialogue and imagination. They demonstrated to residents, business owners, and local government, that temporary public art and pop-up events could bring people to Long Branch and could assist in political, physical, and cultural, efforts to affirm and build a sense of place. It is telling that The LB Business League and MHP have built on this work, hosting pop-up events, commissioning murals, and providing funding for façade improvements. As we look forward we continue to work together to seek larger art/design based funds to develop and plan for a walkable, beautiful, inclusive future for Long Branch.

### Acknowledgments

I am deeply grateful to colleagues John Ruppert and Sharon Mansur and to Paul Grenier and Jeff Gipson of Montgomery Housing Partnership who planted the seeds that sparked this wonderful effort. It was a pleasure to work with so many talented UMD art, architecture and dance students enrolled in On Site and Body/Space/Place, and the dancers who performed in Placeholders. Thank you to our Community and University Partners whose support made this work possible: Impact Silver Spring, The Long Branch Business League, Montgomery County Public Libraries, Montgomery Housing Partnership; Sponsors: Merrifield Garden Center, Montgomery County Department of Housing and Community Affairs, Old Takoma City Hardware. UMD Architecture Program, UMD Art & Architecture Libraries Endowment, UMD ADVANCE Program, UMD Department of Studio Art, UMD National Center for Smart Growth Research & Education, and the UMD Office of Diversity and Inclusion.

Many thanks to Prof. Ruth Morrow, Queens University, Belfast and Street Society applied the concept of “Spaces of Rehearsals” to similar work during her talk at the 2017 Structures for Inclusion Conference at Portland State University. “Space of Rehearsal” comes from the literature on improvisation. It suggests, supports and allows for changing norms, increasing civic discourse, changing sites and changing effect. See Nicholls, Tracey. *An Ethics of Improvisation: Aesthetic Possibilities for a Political*



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# LightScape Garden.

**RONIT EISENBACH.**

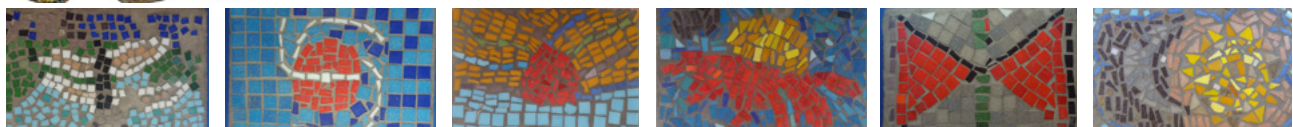
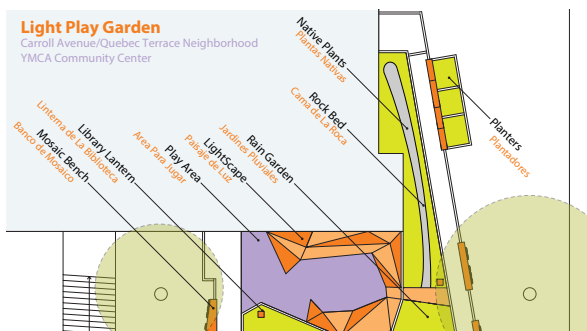
*University of Maryland.*

**KEYWORDS** community, lighting, engagement, safety, public art, rain garden

Slated for installation in 2017, LightScape Garden will realise a community master plan developed in 2010 with clients, *Arts on the Block* (AOB) and the *Carroll Avenue Quebec Terrace* (CAQT) community, a lower income largely immigrant neighbourhood in east Silver Spring, just east of the Washington, DC border. Since 2010, AOB has completed and installed temporary and permanent public art projects and much needed lighting. Initiated with County and State bond bill funding to increase lighting in the neighbourhood, this culminating project will redefine the community space outside of the YMCA Community Center that hosts afterschool and summer programs for local youth. In 2010, Arts of the Block (AOB) began an ongoing engagement with the CAQT community. Through a community-collaborated master plan, AOB, along with the YMCA and other stakeholders, began working with residents to improve the vibrancy, safety and quality of life for residents. Focus groups, a community charrette, interviews and a site analysis identified areas at risk for higher levels of crime. Litter and a lack of beautiful spaces hamper any sense of community pride or engagement. The lack of play areas, green and gathering spaces, the building blocks for a tight-knit community are non-existent, further isolating community members. Consequently, the master plan was a multi-pronged effort to identify ways to beautify the community, create venues engagement and recreation, and promote safety. It identified four primary design projects to help advance the mission goals: public art, both temporary and permanent, such as mosaics and street art; more lighting to promote safety; a community plaza or garden for gathering, environmental education and play; and bus shelters. Several of the initial goals have been completed.

The LightScape Garden will help to fulfil the community's goals by providing a green gathering space

that offers multiple avenues for engagement. Designed to accommodate active small children and the adults who watch them, the LightScape structure defines a gathering and play area by day and serves as a source of illumination at night. A rain and conservation garden encircling the play area will mitigate storm water runoff into the Chesapeake Bay and act as a vehicle for community education about gardening and watershed restoration. Additional benches incorporating the youth's mosaics will provide locations for relaxation, reflection and conversation. To encourage reading and sharing, three Library Lanterns will be planted within the garden, providing splashes of light and book sharing opportunities. In partnership with the Digital Public Library of America's Open eBooks project, these prototype library lanterns will also seed an effort at the neighbourhood scale. Plans are underway to develop solar-powered versions that can be placed throughout the community to illuminate under lit areas while simultaneously assisting efforts to increase literacy and English language skills. LightScape Garden exemplifies how creative placemaking can address and reinforce community dreams, engagement and empowerment critical to local pride. This initiative has become much more than a lighting project - we believe it will become a cornerstone of CAQT and serve as a catalyst for change.





# Urban Wilderness: From Project to Practice.

HESTER BUCK.

*public works.*

**KEYWORDS** Resilience, Critical Practice, Wilderness, Legislation, Role of the Architect

The Wilderness Project, which I started as part of the Architecture and Activism<sup>1</sup> studio run by Torange Khonsari, Andreas Lang and Francesco Sebregondi at the RCA, developed the framework for me to test my thesis in practice, as part of the critical design practice public works.<sup>2</sup>

Situated in the Carpenter Estate in Newham, it questioned the agency of the architect, exploring how an understanding of legislation can challenge the power structure between the residents and the council, using design as a tool to make a condition visible and alter a situation. My project proposed to attract endangered species, to decrease the speculative land value of the estate, making it less attractive to developers. By developing a relationship between the residents and wildlife organisations the power dynamic between residents and the council or developer could be challenged.

Through conversations with the community the unit developed a brief that was informed by their needs and responded to the condition of the estate. A temporary shed, designed with a fellow student, Anna Lisa McSweeney moved around the site and acted as a tool to start conversations with local residents.

This live build element of the project was paid for by a Comic Relief grant. This self-generated funding changed our relationship with the estate, facilitating more propositional or challenging design outputs.

The final designed buildings were proposed as a strategy to support the residents remaining within their homes, while supporting the endangered species. The final images of the project depicted an urban wilderness, exploring new ways of living within the city, close to nature. The images also became a tool to illustrate the length residents would go, to remain in their homes.

After graduating from the RCA and joining public

works<sup>2</sup> I secured funding to test these tactics on the post-war Old Ford Estate by planting a community orchard. This project was secured through an *Award for All* fund and works closely with the Royal Society for the Protection of Birds to attract and protect birds on the estate.

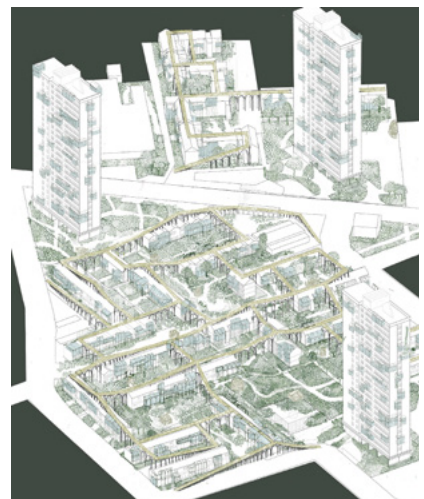
The Wilderness Project has developed since my graduation to address the Savills report, a document attacking the architectural typology of social housing. Through a programme of events, the Orchard Project looks to gather evidence illustrating the value of the small scale public green spaces, which this architectural typology facilitates.

As a practice this project does not conform to a traditional architectural role. An ongoing relationship with the residents of the estate reveals a small-scale design task, with value placed on a dissemination of knowledge, events playing a key role. The architect is defined by a role where design facilitates a creative understanding of system, through an in-depth knowledge of legislation.

## Aims

The ambition of the project was to use the time and critical discourse provided by Part Two Masters in Architecture coursework to develop a live project that could form part of my practice after graduation. Opposed to using this time to design or build the project, I was interested in developing a mode of practice questioning how: the projects could be funded; a new type of client relationship could be developed and the project could have an agency within an urban issue. In this way, the project gave me the opportunity to question creatively the role of the architecture, providing me with a mode of practice, which could be replicated beyond the single project.





### Methodology

Architecture and Activism, developed a critical urban agenda by situating the project within the issue created by the pressure to develop social housing. My design centred on understanding policy to empower the residents.

### Findings

While my Masters project was situated within a specific condition, the themes that the Wilderness Project addressed could be replicated in other projects across London. An understanding of the systems that create a condition and the developing of tactics in subverting that condition enabled me to replicate my project within real life situations.

Developing a brief through situated research allowed me to develop a project critically in line with my understanding of an issue and the community it affects. By self-generating grant funding to support my current work, the project has been able to be more critical of its effect, defined by an agenda. Through my education, I experienced the value of self-generated funding streams and situated research as a practice, which has formed a key component of my later practice.

The understanding of a system created a body of work that could be used by the community that we had been working with after the project was completed or replicated in other areas across London. The focus on legislation gave the project a practical application and meant that the practice had a unique edge when applied to real life situations.

### Outcomes

The project works closely with residents to celebrate the value of this housing stock. It strengthens the community of residents living on the estate by developing a network. The design of the events becomes a tool to change the way that the residents perceive the estate, proposing alternative ways of using the green spaces and empowering them through an exchange of knowledge. This project raises the question of how legislation can be framed as a student design problem, creating design projects that engage with the role of an architect within the power structures which are forming an urban environment.

### Impact

While the Wilderness project on the Roman Road is designed to protect the social housing stock, in practice it has evolved to have a wider social function, where events support the architectural ambition to provide residents with access to large areas of collectively owned space, designed to support a strong community network. My experience of applying project in practice raises the question: how can a university education become a time of innovation where new modes of practice can be developed?

### References

- 1 ADS3, a post graduate design studio at the Royal College of Art, set out on theme of Architecture and Activism: exploring how architects can intervene in the field of politics and critically engage with contemporary urban conditions.
- 2 public works is a critical design practice set up in 2004 that occupies the terrain in-between architecture, art, performance and activism. Together with its interdisciplinary network, it re-works the city's opportunities towards citizen driven development and nurturing their rights over the city.

# Pavilion for Education and Research.

MATTHEW BROWN, CHRISTINA GODIKSEN, MICHAEL HOWE.

*Cultural Geometries.*

**KEYWORDS** Pavilion, Waste, Catalan (Catenary) Vaults, Marble, Re-use

In the town of Vila Viçosa, Portugal, where everything from castles to kerbstones are made out of marble, our pavilion is the first non-reinforced marble structure for over a century. It is also the first to be exclusively built from marble waste and with this type of structural system.

The design research has from the beginning been integrated into undergraduate teaching. Students have lead particular lines of enquiries and collectively worked directly with the Quarries, Marble factory, Geologists and the community. We are inherently motivated by culture. Methodical knowledge exchange year on year, critical reflection, debate and further experimentation are the core components to the research lead teaching and praxis.<sup>1</sup> This led us to the design and construction of our first architectural scale experiment.

The pavilion is fabricated and installed in Etma, a Portuguese marble factory with Marble from Solubema quarry. The pavilion's intended use post construction is as an educational tool for employees, local students, international architects, engineers, clients and not least for our ongoing research. The structure, at only 2-3cm thick and comprising just two layers of laminated marble, springs from one curved wall before forming two sweeping catenary vaults. The spatial experience, with views framing distant waste marble mounds is formed with an attitude to scale and sequence, curated around the simple movement from one vault to another. The snake-skin effect on the surface showcases the full breadth of the material, making the solid structure seem lighter and accentuate its appearance of being 'paper thin'.

Cultural Geometries has been working in the historic marble region of Alentejo since 2011. We have been testing architectural ideas for the quarried yet unused marble blocks. It is our aim to find the

contemporary relevance of marble as a primary building material. Working with local expertise, alongside the factories' growing fabrication capacities and ambitions, the pavilion is the first architectural scale prototype of the residency. Our quarry and factory partner, Francis is a geologist and also the managing director with a great innovative attitude. He has initiated several software and machine innovations, which they are testing and refining in the factory. Francis' extensive knowledge of the material and the history of its uses has been invaluable throughout the process. The factory workers are of all ages and used to routine. They met the project with scepticism and curiosity, which meant we had a steady stream of visitors through the build including their families. The project engaged the factory workers at all stages of the process; cutting the unused blocks down to tiles and building. In the office we would work with the factory architect Nuno and his assistant. They supported the digital side of cutting the stone and plywood guide work. Communicating with a mixture of languages, arm gestures, a paper model we exchanged many ideas and heard many stories about marble throughout the process. Students and the factory team took part in all on-site design decisions. The project was the talk of the town and all of these exchanges of great educational value to us.

## Aims

The design aimed to test marble's contemporary relevance to architecture by testing at 1:1:

- marble as primary architectural structure;
- the feasibility of reusing waste marble;
- the feasibility of building method and instruction of building method







## Methodology

Creativity: stimulate remote associations and lateral thinking through 'out of the ordinary' environments and 'on the spot' problem solving.<sup>2</sup>  
Participation: Engage communities, experts and governing authorities.<sup>3</sup>

## Time

Projects build on previous ones through continuity and reflection.<sup>4</sup> This project was an experiment. We had no precedent for laminating natural stone. We studied references like Gustavino 'tile arch system'<sup>5</sup> patented in 1885, Anthony Gaudi's chain models 1889<sup>6</sup> and more recently the ceramic tile work of work of Block Research Group ETH<sup>7</sup> (and others) to give us theoretical certainty. We also compared fabric folds in marble sculptures (e.g. Veiled Christ).<sup>8</sup> Everything was cross-referenced with the marble factory experience and our own 1:1 testing. The project was achieved through three design workshops, four building trips within and outside semesters.

## Findings

We planned three layers of laminate and designed three tile patterns. When working 1:1 we judged that two layers would suffice (less material). We designed the tile to fit a variety of marble waste, machinery and design typology. Other factors included the handling weight and structural integrity. The 10×10×1cm was quick to cut for the factory. It took them two days to cut 10,000 tiles involving four different people. We discovered the material had retained some translucency, visible at night when lit up from inside (to be explored in future work). Factors influencing building accuracy were skills, guide work, weather and construction time (four trips). Being able to discuss and 'sketch' 1:1 proved very useful as we could make decisions based on actual experience in relation to design.

## Outcomes

The pavilion was completed successfully and is weathering well. The 2-3cm thick non re-enforced laminated structure is thin for masonry construction. The building method could well mean that marble has a structural future in architecture. We also believe this experiment is transferable to other natural stone types. The feasibility of using waste marble has been proven

and was far more efficient than we had anticipated. The 3rd ambition was harder to achieve. Building accuracy and time of construction need to improve. We suggest improved guide work design, construction training, and working with the same construction team though build period.

## Impact

The impact of the project is primarily regional but has global relevance in dealing with stone waste and innovation in architecture. The pavilion's primary purpose is as an educational tool within the quarry and factory. The pavilion is also used educationally externally (American Architects visited June 2016). The engineering firm BuroHapold is now a research collaborator. A reflective exhibition was part of London Festival of Architecture 2016. The work is also listed under AJ's small projects. A film of the project is available on You Tube alongside a film about the marble from quarry and through factory to tile.

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- 8 G Sanmartino, Veiled Christ 1753 (Cappella Sansevero, Naples)

# Architecture to Connect The Harris Museum. Year 1 Architecture Students Re-imagining the Architectural Role for Improving Community Connection.

**EHAB KAMEL AHMED.**

*University of Central Lancashire.*

**KEYWORDS** Architecture, Cultural Engagement, The Harris, Museums, Design-Studio

Museums contribute to the definition and celebration of our contemporary cities and their identities, probably replacing the ancient domination of religious/spiritual buildings, to identify the shift from religious to cultural representation as a main 'place' characteristic.

The Twenty-First Century witnessed a significant shift in museums' nature and definition, which highlights the museums' role towards its local community, and their responsibility to 'CONNECT' to its audience on various levels. Yet local small- to medium-size museums have been facing major financial challenges recently. Ambrose and Paine<sup>1</sup> highlight that despite the growing interest in museums and similar cultural institutions, too many museums are currently chasing very limited financial and funding resources, which, from their perspective, may suggest an urge for new forms of partnership; not only for better cost-efficiency, but most importantly for showcasing higher cultural impact to their context.

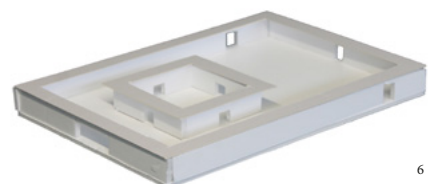
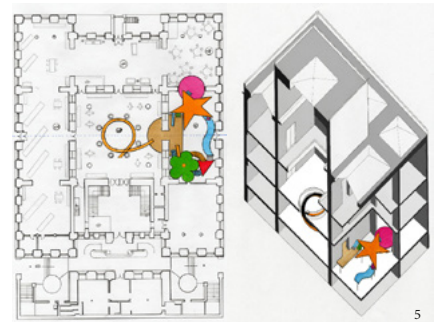
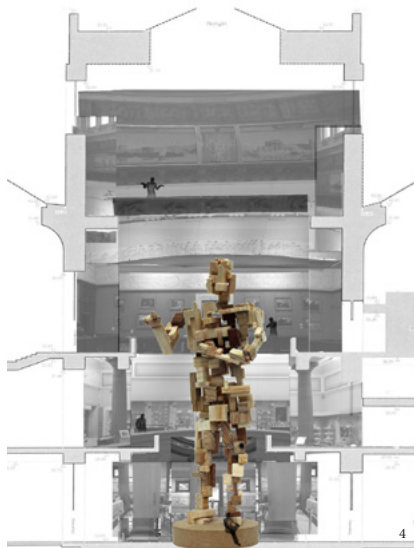
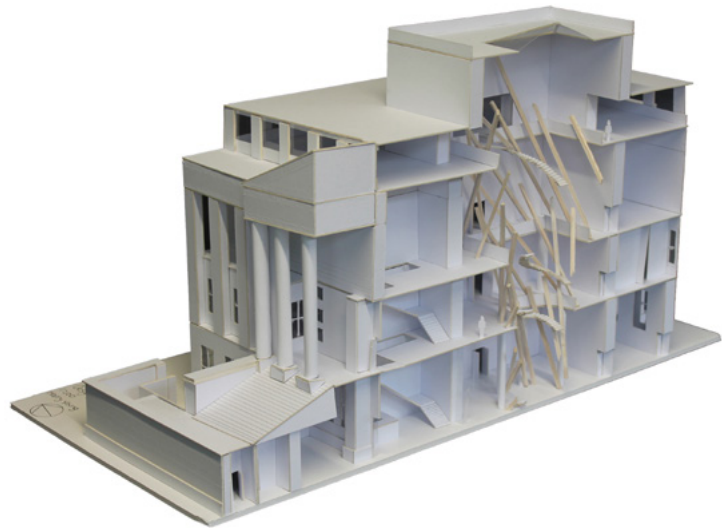
The responsibility for engagement with the public would mainly be that of the museums' curators, who 'design' the display of exhibits and collections, based on the museum's type, nature, themes, etc. However, before the curator starts his role, the architectural design of museums can offer lots of help by providing a proper environment and means to facilitate public engagement. Hence, it is very important that architects and curators work together to put together 21st Century-suitable proposals for 'CONNECTING' museums.

## **The project**

This short project introduced Year One Architecture Students at Grenfell-Baines Institute of Architecture (GBIA), UCLan, to a new approach for perceiving architecture within its context; for this project, students studied, analysed, and resolved their design as 'A LAYER THAT CONNECTS ...'. Generally, this approach, with consideration to the primitive level of students, being their second design project, following a project that focused on architecture as structure, The Harris Project intended to introduce the students to architectural design early as a 'community-support role rather than a construction industry activity'. The students were introduced to debates on contemporary museums, between traditional perspectives and contemporary needs to increase diversity of museums' audience through the range of programmes they offer,<sup>2</sup> as well as raising discussions around cultural significance and the importance of intangible heritage to architecture.<sup>3</sup>

## **Requirements**

In this project, GBIA students were asked to submit an architectural design proposal to improve the CONNECTION of the Greek Revival Harris Museum, Library and Art Gallery (1882-93), designed by James Hibbert, which is considered the North Lancashire's 'grandest and most imposing philanthropic monument',<sup>4</sup> to its local community. 'Connection' in this project was open to various meanings e.g. physical linkage between two spaces (either indoors-indoors



or indoors-outdoors), a connection between a physical / material objects and their intangible meanings, engaging people with the building (or part of it) or connecting the building to its context.

### Project Stages

The students' work was divided into three stages:

1. Museum visits, observation and studies.
2. Building documentation and recording.
3. Defining a 'connection' problem and proposing a spatial solution.

Throughout the three stages, there was a close collaboration between the Museum and Year One Design Studio, where The Harris Museum provided guided tours, presentation, and discussion on 'Re-imagining The Harris' project, and the designs proposed by Purcell Architects.<sup>5</sup> In addition, recent public surveys were made available for architecture students to explore the public view of the cultural institution. Jon Finch, the Re-imagining The Harris Project Leader, provided a follow-up electronic Q&A session to respond to students' queries raised at the end of the observation and studies stage. At the end of design, a joint project review, including reviewers from academics, architects and museum curator from both institutions, was conducted not only to provide a realistic feedback to students' design proposals, but also to emphasise how their designs represent thoughts that can influence their context and support their community.

### Highlights

The proposed designs suggested potential connection opportunities further beyond the original 'Re-Imagining The Harris' proposal, focusing on improving the museum's access to public square outside the building via changing the entrance location.

The projects' suggested connections could be classified into the following categories:

#### *Connection to public square*

This category did not just investigate the entrance position, but rather explored potentials for expanding the museum's influence to the outdoors. For example, via creating a discussion forum, external theatre, public-friendly landscape, external exhibition and interactive workshops spaces, and providing a new public access through the building's basement.

#### *Connecting to people*

This category explored opportunities to encourage particular visitor groups to get engaged with the museum; particularly focusing on children and teenagers via providing more interactive spaces that respond to age-group preferences.

#### *Connecting museum's zones*

Students adopting this approach realised a disconnection between various zones of the building. Proposals suggested more improved vertical connection, including proposed public use of the building's basement and the currently unused roof, or employing a storyline that offers a structured journey across different museum zones.

### Outcome

Fourteen design proposals were celebrated via a two-month long exhibition at The Harris Museum. The exhibited work contributed to raising public awareness of the museum's challenges, and encouraged thorough discussions regarding potentials development and improvement opportunities amongst both museum visitors and staff.

### References

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- 3 See: Ehab Kamel-Ahmed, 'What to Conserve? Heritage, Memory and Management of Meanings', *International Journal of Architectural Research: ArchNet-IJAR*, 9 (2015), pp. 67-76
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# FAB FEST. International Fabrication Festival.

DAVID SCOTT, KRISTA ZVIRGZDA, MATAS OLENDRA, FRANCOIS GIRARDIN.

*University of Westminster.*

**KEYWORDS** Digital Fabrication, Architectural Design, Co-production, Creativity, Crowd Fabrication

## Description

FAB FEST is an International Fabrication Festival held at the University of Westminster in Central London. The festival is a unique pedagogic and social project, combining creative architectural design with innovative digital fabrication methods using lightweight, recyclable materials.

It was introduced in 2016 and developed and repeated in the summer of 2017. The festivals involved 50 teams of five or more students from across the UK and around the world including participants from India, China, USA, Turkey, Greece, Spain and Italy. Teams worked together over a four-month period to develop a design for a habitable pavilion. Groups combined students, professionals in practice acting as design mentors, as well as staff from the University's Fabrication Lab, advising on materials and digital fabrication processes. Following a series of design stages teams submitted their proposals to be digitally fabricated using CNC knives, lasers and robotic arms. In the week of the festival teams then worked together to assemble and install their pre-fabricated pavilions, collectively creating the architecture for a large-scale public event. Building and celebration took place in Ambika P3 - a 14,000 square ft. space in Central London developed from the University's former concrete construction hall. The project ended in a three-day celebration with live music and making-based events for visitors and the local community.

## Aims

There are several connected aims:

- Encourage students to explore, test, document and develop new manufacturing processes using the given materials;
- To investigate how to make a pop-up, short burst workshop where digital tools are used to build full

scale pavilions;

- To engage students to think and build at a scale that is seldom possible in an academic environment, and to bring their ideas to a wider audience in interesting and unexpected ways;
- Systematically investigate innovative ways of meeting the demands of the brief in a restricted time period and with limited choice of materials. Utilisation of digital fabrication as an exceptional tool to work with cheap, recyclable materials;
- Investigate into remote manufacturing and how international liaisons might successfully work to create the architecture of the festival by developing digital designs in one place and using digital fabrication tools in another;
- Broaden the making community, look into the ways of creating a one-off community bringing together different disciplines and cultures and include the local community including primary schools and businesses in the celebration of making.

## Methodology

Technology was used to communicate with teams, facilitate the transfer of information, enhance learning, as well as to provide the means to test and manufacture participants' designs wherever they were based. The project had at its disposal, for a limited period of time, the full resources of the University's Fabrication Lab from laser cutters to industrial robots. The project made considerable use of digital and social media to form a community around the event. Trained students working in the Lab also played a key role as international liaisons, communicating with international teams in order to help to test their designs on our digital fabrication machines and feedback on their proposals.

The project was not only a new form of



collaboration between students from the host university. There was also collaboration with universities around the world, working with a diverse array of architectural offices, and industrial sponsors, some of whom also entered their own teams and supported the student teams in the use of their materials. To engage the local community, we visited local Primary Schools giving short presentations about the event and the theme. Pupils were asked to try their hand at imagining what a Pop-up City could be in drawings.

Festival participants and visitors were asked to use hashtag #fabfestlondon and/or #fabfest2017 in social media platforms such as Instagram, Facebook and Twitter in order to spread the word about the festival and to create an extensive online library of the work produced.

### Findings

The brief “Pop-Up City” encouraged ideas about the city directly, and how cities might be transformed through participants’ designs for what they imagine the cities of tomorrow to be. The most successful participating teams were the ones that had their projects as part of their architecture degree courses in their home universities. The international nature of the festival encouraged the blending and exchange of ideas between creative young people from very different cultures.

### Outcomes and impact

FAB FEST provided an opportunity to create a one-off community bringing together different disciplines and cultures, with a depth of shared interests and understandings developed over a period of several months, as well as the more intense shared experience of the week’s festival of concerted effort and entertainment. Students had the rare opportunity to see their professionally guided designs realised and enjoyed in use by the general public, by expert judges and fellow students from around the world. The event triggered an interesting conversation between academics, designers and students about digital fabrication and established short-term partnerships between professionals and students - the next generation of designers. The transient urban space that was produced in Ambika P3 became a site in which to interact with the local community, brought into the

festival through joint projects instigated in the months building up to the event.

The events were documented through video and still images as well as interviews with participants at all levels, and with festival attendees. The project produced a remarkable range and diversity of work, offering innovative forms and approaches to fabrication, as well as creative responses to the briefs. Of equal interest to the pavilions themselves however were the ways in which they created a temporary community. This involved both those engaged with the project from the start as well as an extensive group of visitors who participated in student-led making activities and workshops, were inspired by the architecture of the pavilions on display, and entertained by the performances of the musicians and artists accommodated by their spaces.



# Healthy Buildings. Two phases of a live project.

JANE ANDERSON.

*Oxford Brookes University.*

**KEYWORDS** Live project, Wellbeing, Pedagogy, Inclusion

In 2016-17, year 1 undergraduate students at the Oxford Brookes School of Architecture collaborated with “The Hill” on a live project to test ideas via prototypes and initial designs for a Digital Wellbeing Hub. The Hill is a digital healthcare ideas lab based at the John Radcliffe Hospital in Oxford and supported by Digital Health Oxford, Oxford University Hospitals and Oxford Academic Health Science Network. Their mission is to initiate delivery of sustainable healthcare with a focus on digital health. The Hub building will act as the focus point for their activities, creating an identity and base for the project.

The Hub caters for patients, carers, nurses, doctors, healthcare professionals, designers, developers, researchers, business leaders and investors. They provide a network and opportunities for dialogue via provision of mentors, business support and funding. The Hill also provides co-working space and hosts events. The Hub building will stimulate and enable members of the public to propose, develop and realise ideas to improve health and well-being that exploit digital technology. A flexible space of approximately 25m<sup>2</sup> is required that can welcome, promote, communicate and encourage engagement with The Hill’s many stakeholders.

The live project took place over the course of two connected projects on the theme of “Healthy Buildings”, exploring the potential of architecture to promote wellbeing. In the first four weeks, students worked in twenty-four groups of five. Each group designed and built a full scale prototype *Fragment* of the Hub. These included walls that flexed to become surfaces for sitting, meeting and display; a chandelier device that enabled user engagement to adjust shadow and pattern; and a room divider that allowed occupants to customise the privacy and light quality of their space via an expanding and contracting network of cubes.

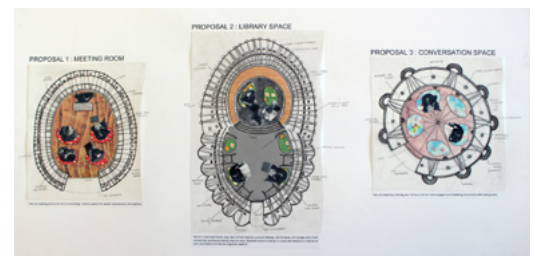
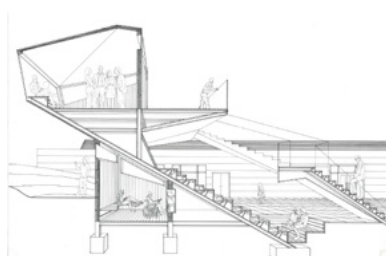
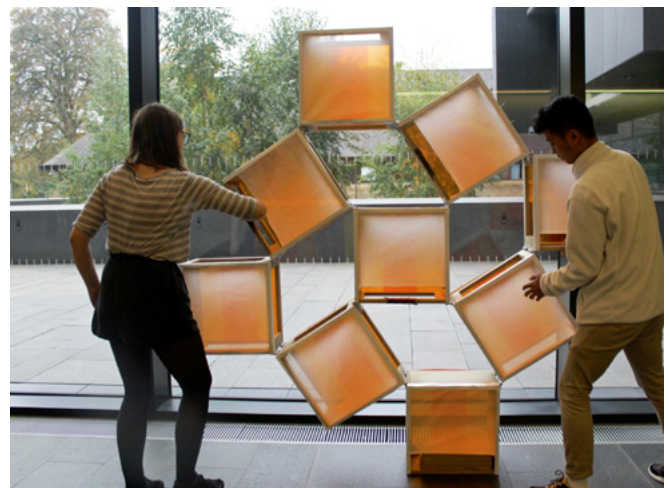
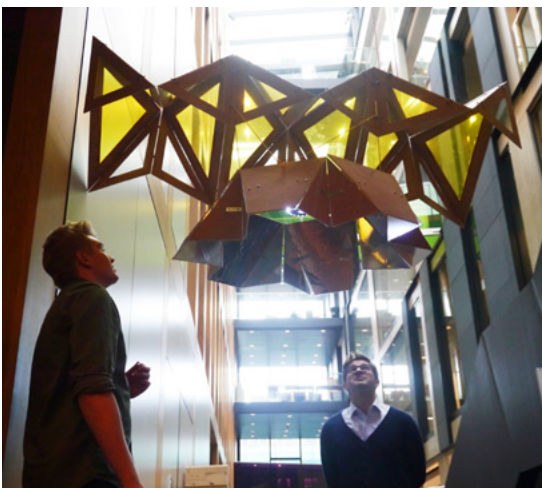
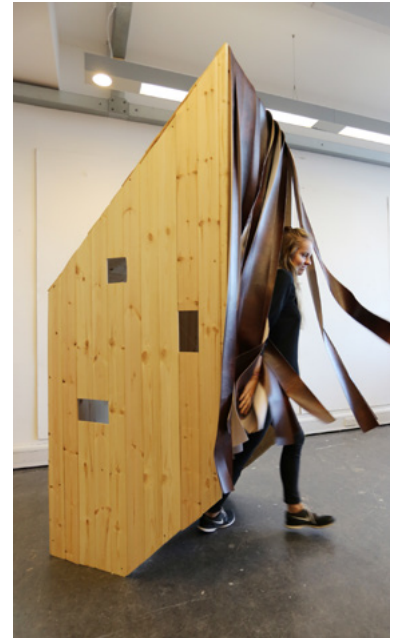
These were tested out during an interactive event in the atrium of Oxford Brookes School of Architecture. Our collaborators invited colleagues working in the field of Public Health to join them in testing out each proposal, discussing their pros and cons with students who gave a presentation of each project. The presentations were filmed to enable our collaborators to discuss the ideas to other colleagues elsewhere. The Fragments were then installed in a publically accessible exhibition space on campus so that further feedback could be gathered from peers and visitors.

In the second, eight-week project, students worked individually to propose initial designs for the complete Hub building, using what had been learned from the prototype Fragments project. Students produced scaled models and drawings of design proposals. Proposals included space divisions inspired by the mutation of cells, a multi-level space that connected different departments of the hospital and an expanding space that also served as a set for the broadcast of TED Talks.

The work from these two projects was curated into an exhibition held for three months at the Churchill Hospital to stimulate wider public feedback. A book was created and given to our collaborators to summarise the findings and feedback from the two projects. This was disseminated among their organisation and used to inform potential funders and supporters. The project to undertake detailed design and construction is being undertaken over the course of the 2017-18 academic year by a group of 25 undergraduate students in Years 2 and 3. The Year 2 students participated in the first two phases of the project while they were in Year 1.

Following an analysis of the whole cohort of students’ proposals, it was found that there were recognisable patterns in the strategies that students employed in their designs in order to promote





wellbeing. Below is a synthesis of the design for wellbeing strategies that were found. The Manifesto for Healthy Buildings summarises the ways that architecture, architectural design and architects can promote wellbeing.

### **A Manifesto for Healthy Buildings.**

#### ***1. Architectural objects can... create wellbeing:***

- Architecture is a physical filter for light, air, sound, smell, temperature and water.
- Buildings bring us into direct contact with endless choices of materials and textures.

#### ***2. Architectural design can... create strategies for wellbeing:***

- Strategic spatial and programmatic design decisions that promote physical and mental health and comfort include exercise, movement, rest, community, communication, inclusion, security, nutrition and hygiene.

#### ***3. Architects can... be wellbeing champions:***

- Architects can promote and sustain well-being through their actions via participation, aesthetics, quality, site / place, accessibility, sustainability, programme, spatial configuration, concept, material selection and environmental design.

# A Broader Link: Bemerton East-West Link live project by Spatial Practices at Central Saint Martins.

**OSCAR BRITO-GONZALEZ.**

*Central Saint Martins, University of the Arts London.*

**KEYWORDS** live-project, community, participation, public engagement, outreach

Complex processes of privatisation, regeneration, stagnation and even removal and substitution have affected the provision of social housing in London. These processes raises challenges but, occasionally, also opportunities for the local communities, requiring them to take a more proactive approach in order to assure their own resilience and improvement.

Bemerton Villages, a large housing estate next to Caledonian Road in London, may be considered as a very good example of the possibilities that an organised community may achieve through their self-management and a positive approach towards the opportunities that the evolution of the context may offer. Located in between very different areas of the city, Bemerton has undergone its own internal regeneration that has run in parallel to the redevelopment of King Cross area.

As many housing estates that somehow have followed the model defined by modern architecture, Bemerton counts with a considerable stock of open areas that may still have a more positive role and articulation. The proposal to requalify some of those spaces as an East-West link, a pedestrian connection between Kings Cross, Barnsbury and Angel through Bemerton is a great opportunity to address local issues while boosting the role of this community in the bigger area.

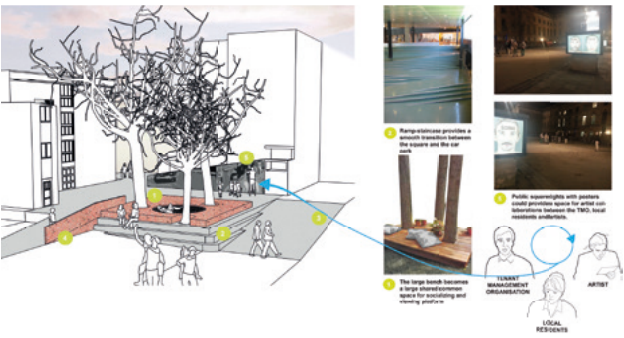
The proximity between the complex reality of Bemerton and Central Saint Martins, one of the main European institutions of Arts and Design education, creates great opportunities of collaboration and exchange, where this local community provides with a rich range of issues and potentials that the college may

explore, unpack and develop as part of its academic, research and outreach aims. The design process of the East-West link being one of these. During the academic year 2013-14, the Spatial Practices programme at Central Saint Martins focused many of its academic and research activities in and around Bemerton. Being involved, as a live-project, in the design of the East-West link, was an opportunity to further develop our on-going researches on the production of public spaces and the agency that architectural practice may have on it. A fundamental aim of this collaboration was to explore ways enhance the engagement of the community in the design process through a creative approach to the public consultation that is required for this kind of interventions.

The design of the East-West link was approached as a process involving the design, implementation and analysis of three different consultations events and the participation of the community in the design of the proposal. This approach required an extensive immersion in the context; rather than working at the school and paying some site visits, a group of student from CSM nominated themselves as Be+, a name that summarise the potential that the group found in Bemerton, set a permanent base in the middle of the estate in a space provided by the residents' association. This base, the Be+ Lab, was opened to the public, becoming both a place and a tool for a permanent consultation and a laboratory for design based on the active engagement with the community.

We used the Be+ lab as a tool to permanently display and share our design progress, allowing us to discuss ideas better as a team and with the residents. The Be+







lab was a platform for the residents to inform and voice their design opinions. As part of our local engagement, we activated the spaces local to the Be+ Lab by introducing pop-up interventions such as ping pong tables, picnic benches, children's activities and mock up installations of the East West Link.

We ran a first open consultation to collect first-hand opinions about how the area is used. The consultation was designed as a springboard to ignite residents' imagination and to learn about their desires and aspirations for the area. For this we presented the potential spaces for action within the estate and asked the residents about the possibilities. Residents were shown case studies as provocations and marked their routes around the estate. These case studies and new interpretations were layered as a map of their collective imagination. Later on we transcribed these maps and compiled a series of issues and potentials. From this a series of interventions emerged.

For the second consultation we met at the residents board meeting. Further supported by the research produced by the third year students of the architecture course at Central Saint Martins, we presented three design proposals for each of the main spaces identified in the first consultation that characterise East-West link for the local community.

After the board meeting we iterated our proposals according to the discussion and developed ideas to be able to create a series of options for the identified sites. We then created the third consultation. We set up a series of installations at the Bermerton Summer Fest to discuss the design proposals with the local community. An exhibition was also set up outside the Be+ Lab with illustrations and models to display the different options for the East West Link. We had engaging conversations with residents and non-residents that help us to further refine our proposals.

One of our main aims during the design process, based on our design research and approach and developed through the consultation, was expanding the scope of the East-West link from a passage through the estate to a sequence of interventions in the public spaces that would work for the broader community, unleashing the latent opportunities that the structure of the common areas at Bemerton may offer. The final design of the East-West link was partly implemented in 2015.

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**Project direction:** Oscar Brito, Stage 3 leader at BA Architecture, Central Saint Martins. Mel Dodd, Spatial Practices, Programme Director, Central Saint Martins.

**Be+ Design Team:** Jonas Bertlind; Alys Crawford; Claire Delbet; Josephine Elnaugh; Chloe Fenton; Fabio Latino; Johanna Marttila; Roberto Nicolas Marchiaro Tendero; Ruby Raw; Matthieu Tate; Nicholas Woodford; Kit Yung Yip.

# Ice Station Oculus.

**RANDALL KOBER.**

*Laurentian University McEwen School of Architecture.*

**KEYWORDS** design build, resiliency, wood structures, indigenous precedent, place

Laurentian University is located within the northern edge of the developed world in North America. The area has been home to a series of First Nations peoples for thousands of years and lies on the travel routes developed by fur trading voyageurs. More intensive European colonisation began merely one hundred and forty years ago. Within two generations the land was denuded of its dense forests and the Precambrian bedrock shield was exposed and stained through the pollutant results of hard rock mining processes. The inhabitants of Sudbury where the school is located are in the process of reclaiming its botanical and limnological heritage. In the centre of the city is a large glacial remnant lake that serves at its primary potable water source, as well as a central summer sailing and rowing spot. In winter an ice skating path is prepared and tended on it.

The design build of ice stations on the frozen lake is the work of the first year design studios at the McEwen School of Architecture. In this introductory course students are focused on understanding place. The opening classes are spent exploring the natural surroundings, visiting a First Nations reserve, going into a mine, investigating wood and form through carving, and drafting a set of drawings of an early log cabin. Students then embark on their first design project. Fifteen students and one professor negotiate a collaborative design path. It is a rare opportunity to build at 1:1 the first project that they have designed in architecture school. For the past two years we have installed student designed and built ice stations along the skating path on Ramsey Lake. They are resting places and follies.

Through an iterative drawing and modelling process one design emerges from each of the five studio groups. The group project featured here is a partial geodesic dome. What is unique about this partial

sphere is the choice of wood as the building material, which reflects the school's interest in championing wood as a building material. The primary structural elements are unfinished 2x3's, mass produced and commonly used in mobile home construction. The corners of which are open slot mortise and tenon joints held together with dry fit dowels, recognising a sense of classic craft brought to Canada by European immigrants. The completed hexagons and pentagons are lashed to one another with common baling twine. Shoulder jointed benches complete the interior. 2x's were ripped down into strips and woven into the structural matrix. Multiplying oculi frame the landscape and sky. The shadows cast by the bright winter sun add another layer of visual interest while sitting in the pavilion.

No glues or metal fasteners were used. Thus, the structure is completely biodegradable. The project will be reinstalled in the forest to recede back into the earth as the Anishinaabeg wigwams have been doing for centuries. The pavilion will become soil from which tree seedlings may sprout and carry forward the community's re-greening effort.

## Evaluation

### Aims

The goals of this design build project were to focus on understanding the concept of place, specifically Greater Sudbury and northern Ontario; to introduce a collaborative attitude for the students to use throughout their education & life; to develop design and craft skills; to develop ecologically sound building practices based on respect for the environment; to understand wood as a building material; to engage the school with a wide spectrum of the surrounding community.



Top photo: John Lappa/Sudbury Star

### *Methodology*

The north as place is explored in preceding field trips and exercises. The pavilion's program is a place to stop, sit, look, and think along the skate path. The design process began with a hand sized collaged diorama of a place between the winter sun above and the frozen lake below. The first model's material challenge is limited to common square edged toothpicks, which assumed the scale of twelve feet long 2x4's at 1:50. The humble 2x4 is the most common timber building material in North America. Because of its utter banality it is given as the building material to investigate. The small toothpicks' size and reliance only on carpenter's glue for adhesion allows the students to design at a very slow pace as dictated by their ability to carefully manipulate the tiny elements. The students' attention to detail and manual facility is developed through the contemplative making exercise. Moves are deliberate and reassessed as the glue sets and pieces shift in their hands. Several models are produced individually and then in expanding groups work at ever increasing scale on collaborative models with changing materials until consensus is reached on a final schematic design. In this instance broken up toothpicks employing a balloon as removable timbering and several instances of emergent hexagons were chosen as the models to explore at larger scales.

### *Findings*

The combination of the overall round skin composed of repeating bits and the structural possibilities of a modular hexagonal structure lead to the exploration of Buckminster Fuller's 'energetic geometry' particularly geodesic structures. Fuller's mathematical efficiency and his thoughts on humankind piloting 'Spaceship Earth' parallels the Anishinaabeg Grandfathers' teaching 'to honour all the creation is to have respect and humility.' By designing and building collaboratively and efficiently a 100% compostable temporary structure it was hoped that respect and humility, 'to know yourself as a sacred part of creation' could be learned through this project.

### *Outcomes*

The stations' placement on the ice was scheduled to correspond with Ontario's February Family Day holiday. Long lines formed outside the shelters on the holiday as people waited their turn to enter and

experience the interiors. Hundreds of selfies were posted. During their time on the ice the stations provide destinations for afternoon skating or walks for individuals, couples, and families.

### *Impact*

The structures are an introductory course in architectural appreciation for many of the users. It is our hope that they can inspire a new generation of architects for the north.

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**Location:** Sudbury, Ontario, Canada.

**Dates:** November 2016-March 2017.

**Participating Institution / Organisation:** Laurentian University McEwen School of Architecture, City of Greater Sudbury.

**Participating Discipline:** Architecture.

**Case Study:** Ramsey Lake Ice Station, Oculus Prime.

**Tutor Name / Team:** Randall Kober/H.

Bassan, L.Boyd, E.Bugaliski, E.Celestine,

M.Demeo, T.Farmer, D.Fortes, D.Kanthria,

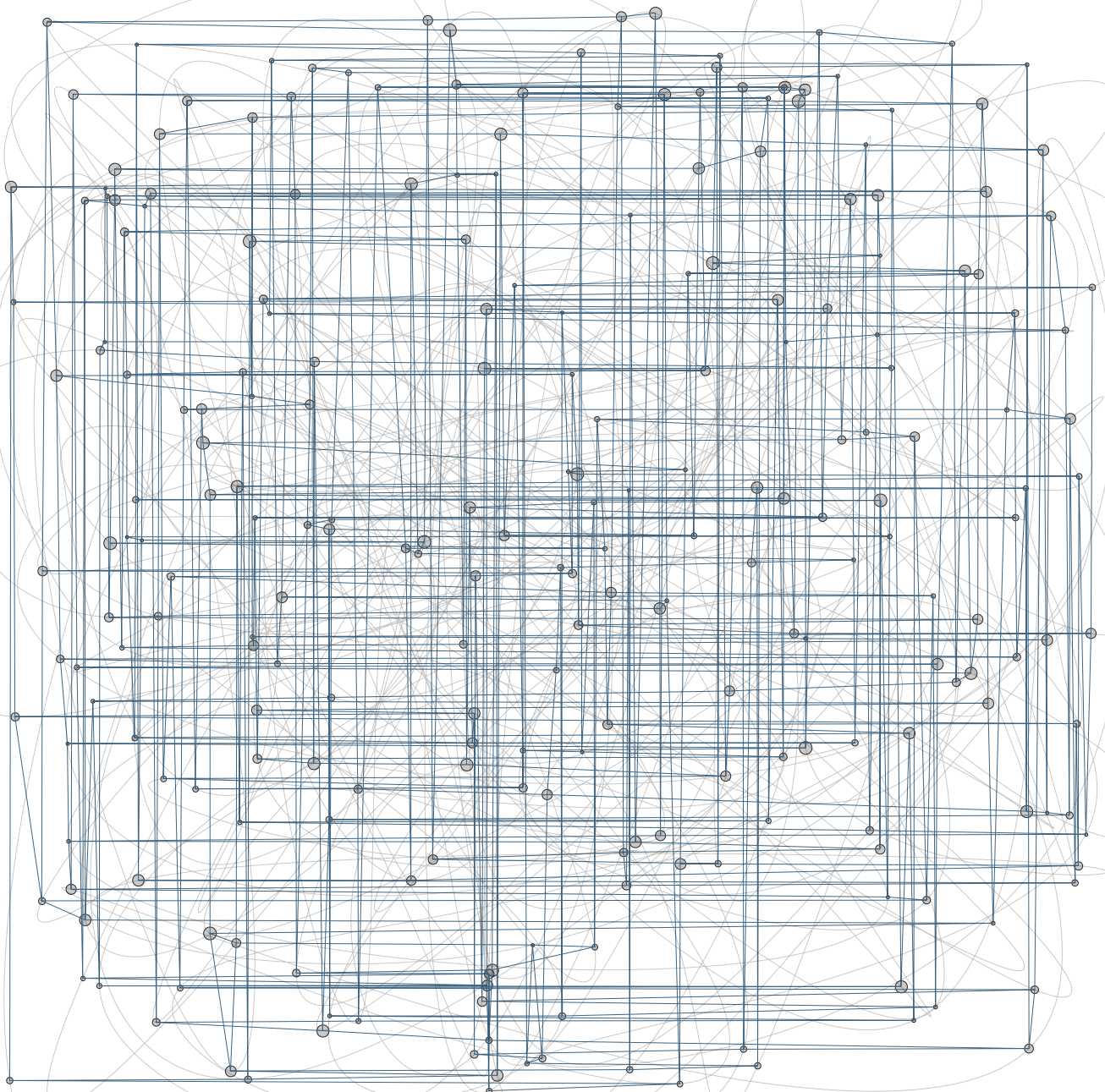
L.MacEachern, B.McDonald, T.O'Gorman, J.Smith,

L.Srimanmathan, H.Waqar, S.Wetteskind



## CHAPTER 4

# Films











## Cultural Machine. A sustainable and culturally sensitive housing project.

**PROF. CARLOS HERNANDEZ CORREA.**

*PEI International Studies Programme, Pontifical Xavierian University Bogotá, Colombia.*

**KEYWORDS** sustainability, energy efficiency, social innovation, multidisciplinary, construction.

PEI, the International Studies Programme from the School of Architecture and Design of the Pontificia Universidad Javeriana of Bogotá, has been working since 1996, with the objective to develop strategies and projects that go beyond the classroom. PEI's mission is to expand and connect architecture with different fields to generate new knowledge and innovative solutions that tackle social, political, economic, and environmental issues. PEI is committed to teaching excellence and developing creative architecture and design leaders with great social responsibility to make a valuable contribution in shaping the future of cities. PEI works with tight schedules, small budgets and limited resources. The focus is not only on big projects that tackle the big problems but also on small and medium scale ones. Through the use of collective

intelligence PEI can collaborate with other disciplines, and work with other fields. The designs highlight the area's diversity, heritage and encourage the use of local building techniques, indigenous architecture elements, and the use of locally sourced materials. PEI has worked on both national and international projects, workshops, and courses.

The PEI team has been working with the Caimalito community for over two years, creating proposals such as Cultural Sensitive Housing and has developed an Urban Sustainable Master Plan for Caimalito, considering its cultural, political and geographical context. We choose to work mostly with *Guadua angustifolia*, a bamboo-like material, given the fact that Caimalito is located in a tropical region, near the Cauca River and belongs to Pereira territory.



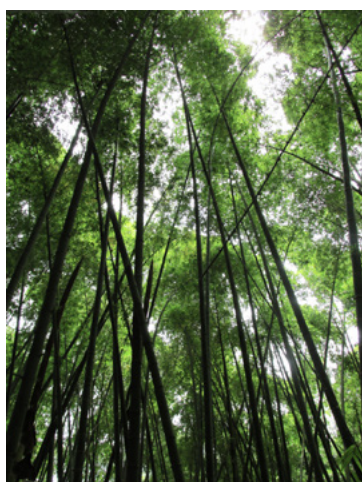


Figure 1. Guadual (Faride Molina).

The Caimalito is a vulnerable community conformed of different cultural displaced groups from all over Colombia. At the beginning it was an informal settlement and over the years it has seen an influx in its population leaving the community with several problem such as a lack of public, low public space appropriation and violence.



Figure 2. Caimalito (Faride Molina).

The activities that PEI developed with the Caimalito community were: 1<sup>st</sup> International Workshop: *Bamboo Think Tank* with SPN estudio, as well as workshops with the different groups of the community (kids, youth, leaders, moms, ...) that led towards the reactivation and appropriation of public space and of the old train station building located at the centre of the town. Some of the workshops helped the locals explore their local material and developed some skills training such as carpentry. We also were able to restore the Old Fire Station and use it as a Cultural Centre “Casa de la Cultura”.

PEI was selected to participate as a contestant in the Solar Decathlon Latin America and Caribbean 2015. The contest was to build a 1:1 prototype of a sustainable house and to participate in different competitions: architecture, engineering and construction, energy efficiency, energy consumption, sustainability, communications, urban design, feasibility and innovation.



Figure 3. Teamwork. (Faride Molina).

The planning and architectural design process and construction of the house took over 1.5 years of intensive work. We worked with many students and used a multidisciplinary approach involving both architecture, design and engineering students.

PEI worked using a Materials Lab, applying theory into practice, using collective mapping, and undertaking many field trips to Caimalito and Lost City to understand the social and cultural aspects and constraints.

PEI used the sustainable housing project as an opportunity to test a real culturally sensitive housing project that would eventually work as a solution for the Caimalito community. We used the following guiding principles: self-construction, progressive construction, functional versatility, economic productivity and sustainable and ecological capacities.

The final stage of the contest was to build the prototype house on-site at the *Villa Solar*, Cali. We had 10 days to complete the house, functional and finished, as well as participate in the exhibition of the house for a week, during the competition. PEI won the 1st place on Architecture and the 3rd place on Energy Efficiency.



Figure 4. Finished (Faride Molina).

We were able to accomplish all of our objectives and follow our guiding principles and methodology by using Collective Intelligence and a multidisciplinary approach to form a bigger network.

### Film

The film is about the construction process and the conceptual principles of the “Cultural Machine/Pei Team” project at the Villa Solar in Cali, Colombia con 2015.

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**Link:** <https://drive.google.com/open?id=OB29NUejFzmsNOG1KSGVUSE5qWHM>

**YouTube:** <https://www.youtube.com/watch?v=5i2BTljEtgU>



## Love Grangetown. The participatory design of a common ethos.

MHAIRI MCVICAR, NEIL TURNBULL, MICHAEL CORR. FILM PRODUCED BY GEMMA GORTON, PONT C. NELSON, JOSEPHINE LERASLE.

*Welsh School of Architecture, Cardiff University.*

**KEYWORDS** public interest design, participatory design, appreciative inquiry, live projects

This film was made within a two-week Vertical Studio by Year 1 and 2 BSc in Architectural Studies students at a Cardiff University-community partnership event. A more detailed description of the project can be read in the paper published in these Proceedings by Mhairi McVicar and Neil Turnbull, titled 'The value of an Architect. The participatory design of a common ethos.' The film captures *Love Grangetown 2017*, an annual day-long reflective, strategic planning and celebratory event led by Welsh School of Architecture BSc Architecture students, Cardiff University's Community Gateway project, and residents of Grangetown, Cardiff, to help define a common ethos for the community-led development of a formerly vacant Bowls Pavilion.

A long term partnership between Cardiff University and the communities of Grangetown launched in 2013 with an open invitation for anyone living, working or connected to Grangetown to suggest an idea for working collaboratively with the university. Based on principles of equal partnerships for mutual benefit, over 40 projects have since emerged from a wide range of community-led themes: mental health, a philosophy café, a youth forum, tech café, business forum and street market. Residents proposing a community-asset transfer of the vacant Grange Bowls Pavilion began partnering with Community Gateway and the Welsh School of Architecture in 2013.

An annual cycle of live co-production teaching has set out to gauge interest, spread the word, gather ideas,

and open up the facility, first for pop-ups, now under temporary license for pilots. From a storytelling booth installation to postcard wish-list collages, appreciative inquiry and participatory design processes have supported the incremental community-led visioning and activation of the Pavilion.

Our 2017 Vertical Studio asked 11 undergraduate students to collaborate with community and university partners to capture progress, help plan for the next year, and curate an exhibition piece reflecting on progress so far. The students facilitated a morning evaluative and planning workshop with university and community partners and an afternoon public event. This short film, created by Gemma Gorton, Pont C. Nelson and Josephine Lerasle summarises a celebratory day of workshops, partnership pledges and awards, ending with a music, dance and poetry event led by local artists. Capturing the breadth of ongoing partnership activities, this studio invited students to examine the wider role of the Architect in gathering community to help define an ethos for a community-led space.

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**Love Grangetown WSA Vertical Studio 2017:** Mhairi McVicar, Neil Turnbull, Michael Corr, Community Gateway, Chenxi Zeng, Kevin Bian, Gemma Gorton, Jennifer Chan, Arista Lam, Josephine Lerasle, Michael Bridgeman, Aina Binti Badarussamin, Pont C. Nelson, Mina Eghbal, Anthi Tsagkatakaki, Grange Pavilion Project, Grangetown Community Action, Art Shell, Grangetown residents and Cardiff University partners.

**Link:** The film can be viewed at or accessed from:  
[https://drive.google.com/file/  
d/0B8h9gh3HbwOdMEtLWWIzTIJFQnc/  
view?usp=sharing](https://drive.google.com/file/d/0B8h9gh3HbwOdMEtLWWIzTIJFQnc/view?usp=sharing)





## 4th Avenue Parklet. Small spaces supporting multiple publics.

**B.D. WORTHAM-GALVIN, PH.D.**

*Clemson University.*

**KEYWORDS** public space, design build, sustainability, tactical urbanism

The block of Southwest 4th Avenue food carts are a staple lunch spot for many Portland students, residents and business owners, not to mention employees of the city of Portland and other office buildings nearby. However, for anyone who has visited these carts or lives or works in the area there is no public place to be.

The SoMa EcoDistrict in partnership with B.D. Wortham-Galvin, the School of Architecture, the Institute for Sustainable Solutions and other community partners researched, workshopped, designed and built the first public parklet in downtown Portland, Oregon (USA). The parklet idea is part of a broader movement, one that transcends food carts: creating usable public space from curb side parking spots. In other words taking the city right of way away from parked cars and giving it back to people. The

installation is intended to help revitalize this stretch of SW 4th Avenue. The film shown at this conference illustrates specifically the build process.

When permitted in 2014 it was only one of three new parklet designs accepted (bringing the city total to 12) and the city's first public parklet. The project took 18 months from its initial conception to the finished installation in spring 2015. The community-engaged process included case study research, site analysis, workshopping multiple design iteration, and sustainable considerations as integral to all discussions.

The parklet design offers dynamic seating options from a high-top bar with stools, to more intimate high back bench seating, to low back benches with small tables. The idea is to offer many different types of

seating to accommodate those that are just waiting for their food to be ready, to people who want to use the space for small meetings or a gathering place (with all options ADA accessible). The concept of sustainability runs throughout the parklet with careful consideration to storm water management and the use of reused, recycled, and sustainable materials (to include: 768 linear feet of sustainably harvested juniper, 3,475 pounds of recycled steel, 250 linear feet of recycled escalator rail from the airport, and drought-resistant native plants selected to be low maintenance that will bloom and grow in each season).



Figure 1. Still from film.

Community members have stood firmly behind the project throughout the design and building process. The parklet was made possible by the financial support of 141 donors, who contributed a total of \$15,640 in cash and in-kind donations through a crowdfunding campaign, an amount that helped to cover the cost of materials, permits, and other expenses.

Post occupancy research occurred at 6 months and one year. Businesses, residents and users affirmed the desire not only for the parklet remaining, but for additional parklets to support more spontaneous public activity in the area. Businesses located in immediate proximity to the parklet claimed anecdotal upticks in business (quantitative studies by the cities of Chicago and Philadelphia have confirmed this phenomenon). Located across from City offices, officials are supportive of more parklets as a means for allowing various neighbourhoods to develop into thriving places that support the existing demographic as well as attracting visitors.

The parklet's impact is as a model for small public spaces supported by multiple stakeholders.



## Cultural analysis via documentary-making.

**JANE ANDERSON.**

*Oxford Brookes University.*

**KEYWORDS** Performance, Co-production, Site analysis, Documentary-making, Food culture

In 2017, Year 1 students at Oxford Brookes School of Architecture used film as a medium to explore the food culture of their city. This formed part of their site analysis for a design studio project to design a community building to support food culture in a central location in Oxford. The exact meaning of the term “food culture” was defined by each student as they developed their design brief. They were also encouraged to join or volunteer with local groups in order to gain an experiential understanding of the issues at hand.

Working in twenty-four groups of four or five, students identified local groups who were concerned with different aspects of food culture, conducting background research and then making contact with them. Although many subjects were chosen that were close to the hearts and lived experiences of the students, they also chose to explore unexpected angles with a journalistic zeal, finding

unconventional and peripheral activities. Links were demonstrated between food and many other issues such as health, wealth, poverty, ethics, celebration, nature, independence, age, education, social justice, nationality, migration, isolation, family and community.

Students made a film about the particular food culture activity or organisation that their group had identified as being significant. All twenty-four films were shown to the whole cohort for discussion. This was a very successful way to disseminate information about the depth and breadth of food culture activity in the city as well as highlighting just how differently each group could interpret and communicate the information that they had found. The three films shown as part of the “Architecture Connects” conference are about a restaurant run by catering students supported by Oxford Brookes University (“Cookery School”); a

social enterprise brewery that trains prison inmates for employment upon release (“Tap Social”); and a food cooperative that supplies local, ethical and sustainable food that is affordable for those on a student budget (“Cooperative”). The Cookery School film is actually an additional film undertaken by an individual student to gain more detail in developing her design brief.

These three particular films are connected by the fact that they chose an interview format. This format was found to be particularly successful as a means to undertake primary research. Setting up and conducting an interview stimulates meaningful contact with an organisation. It requires advance research and the building of trust between parties. Students are accountable for the questions that they choose to ask. The interviewee’s response gives instant feedback to the student on their own critical thinking and communication skills. Their assumptions may be contradicted, prompting a re-think. This is more effective than the critical thinking that occurs in a conventional site analysis that doesn’t engage with people and relies on the observation and perspective of the individual. The film was limited to a maximum of two minutes. The group were required to discuss their findings in order to agree which material was significant enough to be included in the final edit.

Interviews were also a very useful way to analyse the “site” of the activity, its actors and also the way that this was perceived by the students. The “Tap Social” and “Cookery School” films both intersperse interview footage with cutaways explaining the wider context and specific details that illustrate the points being made in the interview. Both focus on the spatial qualities of the places where these activities happen, gathering material that was useful in developing their detailed project briefs. The “Cooperative” film is less ambitious in this respect, choosing to focus on the enthusiasm and charisma of the interviewee. An aspect to these films that we did not exploit enough due to lack of time, is that the films are very useful sources for critical analysis, visual, verbal and spatial. In future, we will follow up the audience screening session with a reflective tutorial or seminar to enable more detailed questions to be asked about the editorial decisions that were made and what this reveals about the subject matter as well as the film makers’ perception of it.

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#### Film makers

“Tap Social”: Blanca Obrador Urquijo, Douglas Major, Ludovica Morelli, Sam Nunn, Ayah Nathir.

“Cookery School”: Jane Georgi

“Cooperative”: Fynn Havinga, Tom Hunter, Emma Howard, Joe Heffernan, George James.

With thanks to:

Tap Social, Brookes Restaurant and OxCo-op.





## Port Resolution Project, Vanuatu.

**NICHOLAS FRAYNE. SUPPORTED BY DAVID MORRIS, JOTI WEIJERS-COGLAN.**

*University of South Australia.*

**KEYWORDS** Design Construct, Vanuatu, community, tourism, education

The *Design Construct Program* at the University of South Australia (UniSA) is engaged with the Port Resolution community on Tanna Island, Vanuatu to assist with building low impact eco tourist accommodation. The aim of the project is to develop a model community enterprise that can be replicated by other communities to generate income for the education of the community's youth. It will further assist in empowering communities to maintain their indigenous culture by avoiding the need to sell land to foreign buyers. This project builds on the Design Construct Program's twenty-four year history of practiced based teaching, engaging architecture, design and engineering students in remote development projects including numerous indigenous community projects in Australia.

### Context

The Port Resolution Community Eco Tourist Accommodation project was proposed by the late Paramount Chief Papa George in discussion with other Chiefs of Tanna Island, Vanuatu to develop a sustainable community business model to support a trust fund for children's education.

The east coast of Tanna Island has many attractions for tourists, however most choose to stay in the large established resorts on the west coast rather than the more basic family owned accommodation available on the east coast. Because of this, families on the east coast have very limited means of generating income and, as a consequence, most children do not complete their secondary education.

The proposal by the Chiefs was to draw upon the resources of a community to build and manage accommodation which would better meet visitor

expectations. The income from the enterprise would be managed through the community trust fund to employ the local community in the management, maintenance and day to day running of the facility and to finance secondary school fees. If successful, the community enterprise could be a business model that could be replicated by other communities.

### **Proposal**

The site proposed as ideal for tourist accommodation was Port Resolution not only because of its proximity to hot springs, coral reefs, and white sand beaches but also its history, particularly the visit of Captain Cook in 1774. The community at Port Resolution agreed to be part of the project and to provide the land on the beach.

In early 2012, the son of the late Paramount Chief Papa George, Chief Jacob Kapere sought assistance for the project in Australia which led him to the Design Construct Program at the School of Art Architecture and Design at the University of South Australia.

### **Project**

In mid-2012, Chief Jacob Kapere invited staff and students from UniSA to visit Port Resolution to consult with the community and to undertake a site survey to assess accommodation possibilities. In the discussions that followed it was clear that our role was to design what the community described as “quality” accommodation which would be attractive to visitors.

Following the visit in 2012, staff and students returned to Port Resolution in 2013 and 2014 to develop the initial design in more detail and to resolve the water supply, water heating, waste water treatment system, solar power supply and the design of a maintenance workshop and laundry.

In order to begin construction, money first had to be raised by students in Australia through cake sales and barbeques. This amounted to \$6,500 which financed the first shipment of materials and tools to Port Resolution and the beginning of construction in September 2014 involving 12 students and two members of staff over two weeks working with the local community to pour concrete footings for the first three bungalows.

Five subsequent trips have occurred since 2014, each involving 20 students and two staff, working with

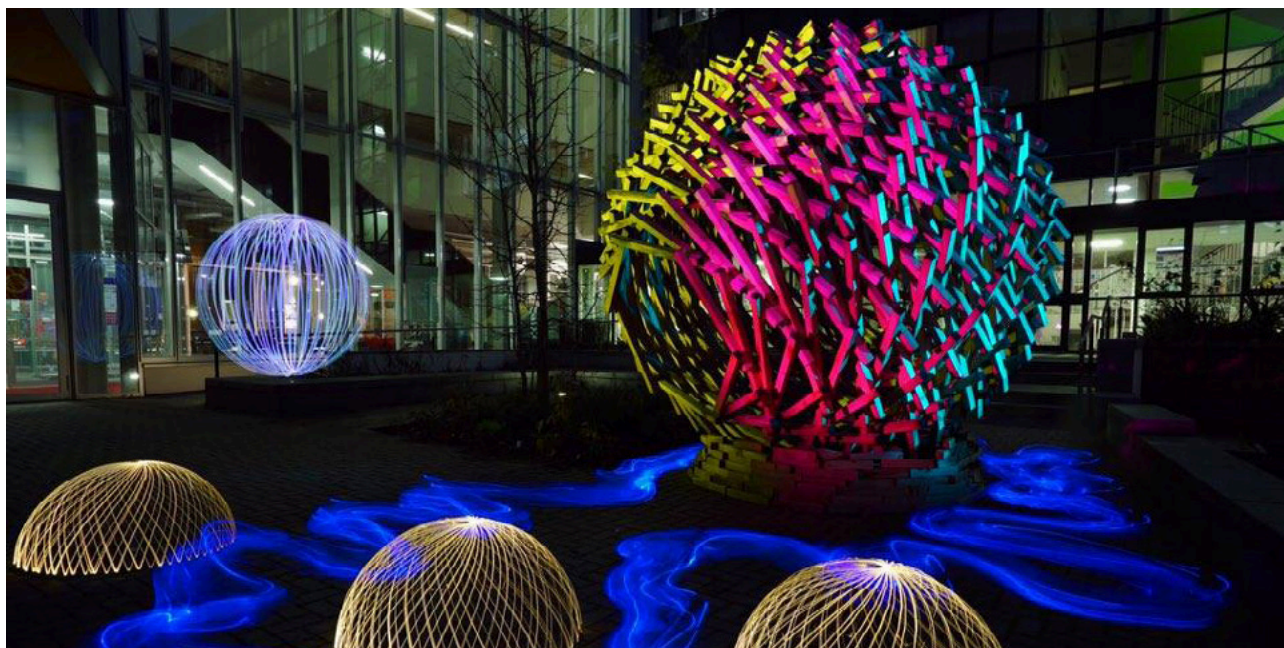
the community to complete the construction of the first bungalow. More than \$40,000Aud has been raised by students and staff to support construction costs, which continues to be raised through a student run tea trolley, exhibitions, t-shirt sales and raffles.

The first bungalow will be commissioned in December 2017 and will begin the generation of income, which will fund the remainder of the project and allow the Design Construct program to gradually step back from the financial and technical support it has provided as the project transitions into a community run enterprise. To support this transition, the University of South Australia will draw on its available resources in tourism, business management, health and hygiene, inviting a multi-disciplinary group of students to participate in the project. As with any development project, we need to ensure the hardware we provide is matched by training and education sufficient to make the project autonomously successful.

### **Film**

The documentary was produced by Nicholas Frayne, a UniSA student involved in construction of the project in April 2017.





## I Don't Roll.

**GUIDO ROBAZZA.**

*School of Architecture, University of Portsmouth.*

**KEYWORDS** Live Project, Architecture, Co-Creation, Placemaking, Parametric Design

*I Don't Roll* is a reciprocal parametric timber structure of 3 meters in diameter created as a collaboration between students and staff at the University of Portsmouth School of Architecture and the Whiteland Wood Project. It was designed and built by a team of Architecture students from different year groups.

It is made out of 400 meters of western red cedar timber, felled and cut using traditional methods from one single tree. The cedar was coppiced from the woodland because it was affecting the habitat of native butterflies and biodiversity of the woodland. The structural form is inspired by the second-place winner of the workshop '*Structure in the woods*'. The design was developed by Guido Robazza and staff at the Portsmouth School of Architecture, Nicola Crowson and Phevos Kallitsis, in collaboration with woodman John West.



Figure 1. Inside I Don't Roll (Guido Robazza).

The structure follows a reciprocal and parametric principle. Reciprocal because every piece of timber lies on the next, which makes the structure self-supporting and offers structural stability. The parametric geometrical principle means that the form is determined by a set of parameters such as number of tiers, rotation angle, and thickness of timber section. Changing one parameter, the whole structure changes.

The conception of the design came from a cohort of 50 students' and three tutors' hard work during a day-long design charrette. A great variety of ideas, described through sketches and physical models made out of bamboo sticks to test structural ideas were produced. At the end of the day, one idea was selected from them through a collective vote. The idea was conceived by the students, for the students which is in principle a very good method to achieve a design that responds to the user's expectations and needs.

The structure was built by 20 well organised students and two lecturers during an intense construction workshop of the duration of three days in May 2015.



Figure 2. Building I Don't Roll (Guido Robazza).

The project aimed to test a model of collaborative designing and making. The model proposes to create the design through a democratic, shared and collaborative method, where all the involved students propose ideas and decide which idea should be taken further. A co-creation process leads to a great level of engagement, creating a social legacy for a small group of people. Can a collective achievement create a strong social bond between the participants? Is this

also true for a 'design and make' project set within an educational context?

The project also tested how locally sourced green timber (from a single tree) can be used for construction and review the green timber over time to determine any structural changes. Green timber dries in time and this provokes shrinking and bending. Although we can define this alteration on a single piece of timber, with this project, we are able to investigate what changes would happen when the pieces were joined solidly together and what would be the impact on the joints?

Staff and students from the Faculty of Cultural and Creative Industries have embraced 'I Don't Roll' as a very positive new presence in the courtyard. It was the centrepiece of the graduate summer show in 2015 and received positive feedback from the invited public. Within a very short period of time the pavilion has become an iconic image of the creativity and excellence of the students' work within the Faculty. The pavilion has benefitted the student community who study in the Eldon Building which surrounds the courtyard; the space now has a strong element of character which the students can identify with.

Furthermore, several students at the Cultural and Creative Industries Faculty used the structure to develop their own photographic and filming for educational projects. The School of Photography also used the structure as an object to develop lighting and shooting experiments, also organising workshops with expert photographers.

The presence of the structure also inspired some students in architecture to develop their dissertation topics on "Tactical Urbanism" and investigate more the implication of temporary architecture on urban life.

The successful making of I Don't Roll had a significant impact in the development of the careers of the lecturers involved, as it triggered a process during which every year from then onwards, one temporary structure has been built in the city of Portsmouth, also strengthening the collaboration between Portsmouth City Council and the University of Portsmouth.

The Faculty of Cultural and Creative Industries has featured the pavilion significantly in the university web platforms to advertise the activities taking place in the Faculty and the School of Architecture courses and activities.

The project has been also published in the local press and in the Live Projects Network website.



The pavilion has become an image that is representative of the high-quality design and collaboration happening in the CCI Faculty.

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**Link:** <https://drive.google.com/file/d/0B3Fyqnh4I5pXbkVyMDImaGNUbjg/view?usp=sharing>



## Prototype Gridshell.

LORRAINE FARRELLY, PIERS TAYLOR.

COLLABORATORS: ZOE BERMAN, CHARLEY BRENTALL.

*School of Architecture, University of Reading.*

**KEYWORDS** gridshell, prototype, collaboration, structure

To end our first year of the new BSc Architecture course at the University of Reading, we wanted to give our students an experience of collaborative design and making. To celebrate the idea of making at full size. Piers Taylor of *Invisible Studio* has been a design tutor with us this year. His company works with groups to make and build innovative structures and forms

We developed an idea to build 'prototype', a gridshell timber structure, whose form and tectonic expression was discovered through making in real time. Around 20 students working in groups took part in a design workshop to make a 1:20 model of the structure, which was then built full size from green timber in front of our building as a temporary installation and celebration of Architecture at the University. The structure was part of our first end of year show titled, 'process' which was describing the starting point for architecture at

the University of Reading, where we had carefully recorded the design process from our first weeks of the course. The show described through models, sketches and drawing our first design project, which had reacted with the townscape of Reading.

The idea of this structure aligns with the idea for the new School to work with innovative practitioners and respond to their modes of practice to give our students some ideas about their future as architects.

The intention is that this is the first of a series of collaborative 'making' structures that engage our students with the ideas of working collectively, of the possibilities of materials and making and how structures perform at full size. The material used for this first structure has been stored away and will be used next year for the second iteration of the 'making' project. We intend to place this idea of making and

co-production in the curriculum at both undergraduate and postgraduate levels, becoming more complex as our students progress through the school.



Figure 1. Collaborating on the build  
(Image -Lorraine Farrelly).

The structure reacted to the site which was a small courtyard, just fitting within the space. The space is quite formal and defined and the structure quite dynamic contrasting with the space. The design and make process reacted to the student group, as first years it was their first experience of making to this scale.

The immediacy of this design and making had a tremendous impression on our students and the possibilities of the full size project. The challenges to work together, to test ideas through making, to work as a team to install the structure have informed their understanding of making architecture. The three-minute film made by the University of Reading captures the process of design, making and included interviews with students and tutors. It also includes unique time-lapse footage showing the immediacy, impact and consequences of this way of working.





## #IHeartPompey.

**GUIDO ROBAZZA.**

*School of Architecture, University of Portsmouth.*

**KEYWORDS** Live Project, Co-Production, Community, Public Space, Placemaking

#IHeartPompey is a project promoted by Portsmouth School of Architecture in partnership with Portsmouth City Council, and led by senior lecturer and architect Guido Robazza.

The project develops a tactical small-sized co-produced temporary intervention in public space. It builds on the assumption that, in cities, there's an abundance of under-used spaces. Encouraging local communities to take ownership of such urban spaces, decide on their use and take action can improve the quality of public space and define new forms of civic participation.

#IHeartPompey brings together the community of young people from the Brook Club in Somerstown, and students of the School of Architecture in an attempt to create a playful and inclusive space, open to welcome different people and allow for their interaction.

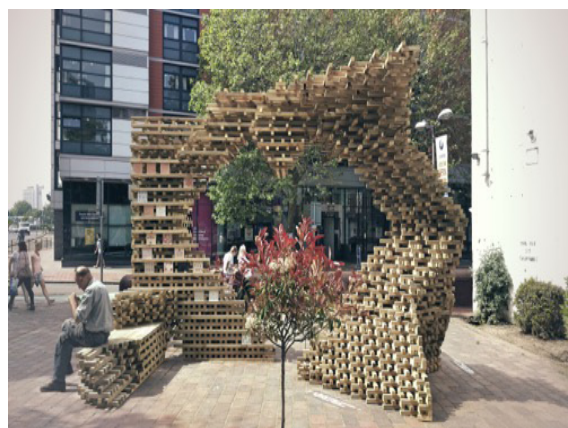


Figure 1. #IHeartPompey just finished (Guido Robazza).

Architecture students from all years were called to take part to a design competition. This ensured a wide voluntary participation (60 students grouped in 12 design teams) and a great variety of design ideas to choose from. To design their propositions, architecture



students embarked in a co-creational design process with young people from the local community. Through a series of workshops the two groups inspired each other. This long co-creative process generated several inspiring ideas that the design teams subsequently interpreted and technically developed in architectural outcomes which were submitted as competition entries.

The selection of the winning proposal saw the deliberation of the vote of several jury members based on five essential criteria. The jury was equally composed by the young people from community and a panel of expert from the School of Architecture and Portsmouth City Council.

The design of postgraduate architecture students Richard Williams and Joshua Brooks, won the competition, and was followed by several meetings between the community and the students who collaborated in the design process and built the structure together in just a few days at the end of May 2016.



Figure 2. The making of #IHeartPompey (Guido Robazza).

The project developed through a close collaboration of a multidisciplinary team, including Architecture, Engineering and Social Sciences. University tutors in Architecture and Social Sciences initiated and supervised the process and made sure it was successfully delivered. Guido Robazza brought together all the different stakeholders, engaged with the Council and identified the local community to work with. Charles Leddy-Owen ensured that the participatory process was carried out carefully and monitored the social impact on the community through surveys and focus groups. This helped to understand the success of the co-creation process and the impacts on the community. Community managers ensured that the participatory process and the encounter between the

tutors and students with the community was smooth and fluid. The intimate knowledge of the young people's habits and how to approach them highly benefited the effectiveness of the project. The local charities 'The Clay Station' and 'The Whiteland Project' played an essential role in the upskilling of the participants, helping them to be creative, crafting their own tiles, and teaching them how to use and work with timber. Portsmouth City Council facilitated the entire process offering financial and logistic support.

The project is part of a wider university research project: "Co-production of Temporary Interventions in Public Space as a tool for Placemaking". The investigation attempts to monitor the engagement and measure quantitatively and qualitatively the impact of co-created interventions in terms of empowerment of the communities and investigating the differences caused in their relationship with the public realm. The methodology, starting from an extended literature review and relevant case studies, develops a comparison between the use and perceptions of the spaces before and after the temporary interventions.

This public space has become a place with a recognisable character and a positive social impact in the life of students and local communities.



Figure 3. #IHeartPompey unveiling (Guido Robazza).

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**Link:** <https://drive.google.com/file/d/0B3Fyqnh4I5pXdHoyNkQzaXNNNWs>



## FAB FEST. International Fabrication Festival.

DAVID SCOTT, KRISTA ZVIRGZDA, MATAS OLENDRA, FRANCOIS GIRARDIN.

*University of Westminster.*

**KEYWORDS** Digital Fabrication, Architectural Design, Co-production, Creativity, Crowd Fabrication

For a more detailed description of this project, please read the Case Study, “FAB FEST. International Fabrication Festival”, published in these proceedings.

### Film Summary

FAB FEST is an International Fabrication Festival held at the University of Westminster in Central London. It was introduced in 2016 and developed and repeated in the summer of 2017. The festival involved 50 teams of five or more students from across the UK and around the world including participants from India, China, USA, Turkey, Greece, Spain and Italy. Teams worked together over a four-month period to develop a design for a habitable pavilion. Groups combined students, professionals in practice acting as design mentors, as well as staff from the University’s Fabrication Lab, advising on materials and digital fabrication processes. Following a series of design

stages teams submitted their proposals to be digitally fabricated using CNC knives, lasers and robotic arms. In the week of the festival teams then worked together to assemble and install their pre-fabricated pavilions, collectively creating the architecture for a large-scale public event. Building and celebration took place in Ambika P3 - a 14,000 square ft. space in Central London developed from the vast former concrete construction hall for the University of Westminster’s School of Engineering. The project ended in a three-day celebration with live music and making-based events for visitors and the local community.





## Performing the plan. Summer School Building a Proposition for Future Activities.

CHRISTOPHER DELL, BERND KNISS, DOMINIQUE PECK AND ANNA RICHTER WITH SARAH HABLÜTZL (VIDEO EDITING) AND MARKO MIJATOVIC (FILMING).

*Research and Teaching Programme Urban Design, HafenCity Hamburg.*

**KEYWORDS** proposition, performance, self-build, intercultural practice, minimal structure

On the morning of September 14, 2016—day three of the summer school—Ina Weber and Bernd Kniess want to move things forward with the construction of the mini golf courses. In the past two days all participants appropriated the container and its surroundings: installing the kitchen container, furnishing the office container, scheduling meal preparation, making lists, getting to know each other, mobilising contingencies. Ina, an artist and professor for sculpture at the University of the Fine Arts in Berlin, asks half of the mini golf team to join her at the table to sketch out the possible positions of the lanes and work on a narrative for the course. In the meantime, Bernd, organiser of the summer school and Urban Design Professor, collects the other half of the team plus extra guys from different

work activities to stake out the outline of the prototype lane one on its future green. The team members arrive, tools in hand, from another work station. At this point, the participants perceive each other as belonging to one of the three categories: international architecture students, industrial school students, and refugees. The presence of modified ISO containers on a summer school location, safety boots during a dinner lecture, a concrete mixer next to a children's playground, cracked yet functional iPad Pros with PDFs of Christopher Alexander's *A Pattern Language* and *A Timeless Way of Building* on provisional tables, a baby carriage parked on the lowest level in a wooden "support structure" reveal a situation in which the "discipline" leaves the ivory tower by engaging performatively with the given

context without closing out contingency.

Questions about position, form, and construction techniques of the mini golf lanes for the First International Mini Golf Grand Prix in Poppenbüttel zigzag across the table—a self-build provisional of multiplex panels measuring  $12 \times 1250 \times 2500$  millimetres, roof battens measuring  $24 \times 40 \times 2000$  millimetres, and Spax screws measuring  $4.5 \times 40$  millimetres produced on day one of the summer school. A4 sheets of printing paper and sketch paper follow questions to illustrate potentialities—those who get a hand on Flo's bricklayer pencil draw on the table. Farid puts his Samsung phone on the table displaying Google's image search with the words "mini golf" typed into the search bar, Ina reports on previous art projects.

Days later, participants pick up the construction of the first prototype lane after testing the concrete mix together with a foreman from the general contractor. He is only available at the beginning of week two, so the construction process is on hold until then. In the meantime, the project team has decided on the outlines of all lanes and has asked the digger from the construction site to excavate the pits for the foundation. The ordered gravel has been delivered in two big packs weighing about 1,200 kilograms. With the first ten pushcarts making the 300 meters from the place where the material has been dropped to the final site of the mini golf course only filling about 15 percent of the excavated pits, participants decide to look for another mode of transportation. Ivan, one of the participants working on Take 1, has a Mercedes Vito with a hitch and a low trailer. Participants empty the big pack until only about half of the gravel remains in it and slide it onto the hitch by pushing a wooden beam measuring  $100 \times 100 \times 2000$  millimetres through the loops on top of the big pack over a highly resistant screen plate initially ordered to construct forms for the mini golf lanes. With an eased grin participants repeat the process and all pits are filled by the end of the day.

Breakfasts, from 9am to 10am, are used for scheduling things to do for the day and figuring out how to do them. Participants quickly agree to transport the wet concrete in a similar fashion as the gravel. Only Ivan is not on-site today because he is working as a freelance architect on another project in Hamburg. Just as the first pushcarts are filled with wet concrete, Lukas, an industrial school student, parks his VW Polo in front of the running concrete mixer, steps out of

the car, opens the trunk and asks Flo to sit in it. Lukas passes a loaded pushcart into Flo's hands, asks if he will be able to hold onto it, gets back into the car and drives about fifteen kilometres/hour to the mini golf course site. Again, improvisation is key on a design-build construction site. Julia sketches out what she perceives to be an assembly line in her journal and gives a copy to Marius, who in addition to receiving credits is paid as student assistant and is responsible for archiving the process.

Participants quickly pour the wet concrete into the mini golf lanes, as the metal plates measuring  $3 \times 20$  millimetres suddenly appear to slightly drift topside, and builders fear the lane could break out of their frames. Shafiq asks Nicolai for his ripsaw and his assistance. He holds a piece of a wooden board over the framing metal plates and marks two cuts in the position where the plates are supposed to give form to the concrete. Nicolai, who still doesn't know what Shafiq intends to do, saws the cuts and hands the board over to Shafiq, who positions the board and the two metal plates so that the plates fit into the cut-outs. The board is a brace. Shafiq worked as an untrained concrete worker in Syria for years. The other participants quickly produce more braces based on Shafiq's process and place them on all of the lanes as Lukas and Flo are quick with more pushcarts of concrete. With all lanes filled, two days remain until the summer school's final presentation day.

While the mini golf course itself is nothing new, it needs to be enacted and activated to stress its processual dimension as opposed to its mere object qualities. A self-build community building cannot be provided yet but needs to be developed, planned and self-built with its future users, and potential uses in mind. Although producing the summer school has already contributed to making new agencies available over its duration, the initial idea of what the community building ought to be was conceived by the leading members of the civil society organisation and their own experiences of constructing and running the common room in their residential project.





## Bamboo Think Tank. From Territory to Detail.

RUTH CUENCA, JUANA CANET, ELENA GÓMEZ.

*Estudio SPN.*

**KEYWORDS** Live Projects, social innovation, participatory design, community, pedagogy

*Bamboo Think Tank; from Territory to Detail*<sup>1</sup> was an experiential workshop using a combination of theoretical and practical methodologies to provide students with new skills related to the use of bamboo and participatory design, working with the community of Caimalito, in rural Colombia. The film shows the experiences, processes, interactions and discoveries of the participants.

Caimalito is an informal rural settlement along the disused rail line near Pereira by the Cauca River. It sprawled in the 1990s with the coffee crisis in the area. Nowadays it has high levels of poverty and unemployment, bad transport links and limited access to essential services. The area has electricity and fresh (non-potable) water. Only some dwellings have sanitation.

The workshop was organised by Bamboo Think Tank (BTT), a platform created by Estudio SPN<sup>2</sup> and

PEI<sup>3</sup> programme (International Studies Programme) of the Pontificia Universidad Javeriana of Bogotá including professionals and academics from Spain and Colombia, local bamboo experts and members of the bamboo industry and the community of Caimalito.

Estudio SPN works between practice, research, development and academia in the fields of architecture, urbanism and participatory design. Our focus is on projects of community support through the design of productive cycles and strategies. We have used bamboo as the key driver for these socio-productive cycles studying solutions of habitability and urban regeneration in disadvantaged areas.

PEI develops projects outside the university as a key part of their programme. The aim is to immerse students into the social, spatial, cultural and environmental reality of each project. This process facilitates first hand research and aims to ensure that

students develop a sensibility towards the people and the place in which they work and produce coherent proposals.

Jorge Villa, a Colombian film maker who had worked in Caimalito before, was responsible for filming. The aim of the film was to show the experiences and processes of the workshop as this was the first of many and it could help to disseminate the work and get support for subsequent editions.



Figure 1. Participatory design workshop with a group of local children. (Estudio SPN)

The approach and pedagogical intent of the workshop can be framed within the Live Project pedagogy. In order to describe this project we use the inclusive definition by Anderson and Priest<sup>4</sup>: *“A Live Project comprises the negotiation of a brief, timescale, budget and product between an educational organisation and an external collaborator for their mutual benefit. The project must be structured to ensure that students gain learning that is relevant to their educational development.”*

### Students

The workshop combined students from three different backgrounds. International students (most were already practicing architects); Colombian architectural students from Javeriana University (PEI programme) and Fundación Escuela Taller de Bogotá (FETB)<sup>5</sup> students from the joinery & construction course. FETB is a vocational school for disadvantaged students coming from areas of armed conflict.

### Brief

The overarching brief was to develop proposals working with the local community to improve Caimalito using bamboo and participatory design tools.

### Timescale

Over two weeks, in two different locations outside university: Bogotá (based in the FETB's facilities) and Caimalito. The workshop took place in summer 2014.

### Budget

There was a very tight budget as the funding for the project came from the registration fees of international students. BTT members and supporters of the workshop contributed with tools, time and materials.

### Product

The outcomes were both tangible and non-tangible. Tangible outcomes: the regeneration of the disused train station shed and adjacent garden; designing and making furniture for that space; creating a stand for film screenings etc. Non-tangible outcomes were: the empathy and learning that participants gained about a different reality which led them to design and make appropriate proposals for the users; the motivation of the local community who took ownership of the disused train shed and gained skills to work with bamboo bringing the material into value.

Politically, the workshop had an impact in the local government triggering the process to provide Caimalito with a vocational school in the future.

### Educational organisation

Bamboo Think Tank.

### External collaborator

Caimalito community. Typically organised in groups of kids, teenagers, mothers and some seniors who were engaged with the workshop working together with the students.

### Methodology

The workshop started in Bogotá, in the FETB where students spent the first week learning the technical aspects of bamboo through lectures by bamboo masters, visits in the city and also practicing and prototyping in the carpentry and construction workshop. These activities created dynamics of peer

learning between the three different groups of students.

From there they moved to Caimalito where they started participatory design processes with the local community groups complemented with more lectures and visits in the region. All the learning was put into practice through participatory design activities; designing sessions and the making of furniture and small scale interventions involving all participants.



Figure 2. Students working with members of the Caimalito community. (Estudio SPN)

## Conclusion

The workshop organisers believe there is a gap in the traditional architectural education and aim to bridge that gap by taking students to real world contexts. This way, students can connect with the end users and their issues which allows them to develop creative and coherent proposals.

The methodologies of learning by doing and hands-on strategic interventions of small-scale / large-impact, together with the participatory processes undertaken with the community and the mix of students bring the students into a situated learning<sup>6</sup> experience and facilitate social innovation.<sup>7</sup>

The film is an effective medium to show the context with all the issues that affect it; the process and progress of the workshop. The interviews with students and local community members reveal their reflections and the impact this workshop had on them as individuals and their future actions. The students talk about immersive learning, social innovation and transformative learning through their reflections.

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## Studio in the Woods.

**PIERS TAYLOR.**

*Invisible Studio.*

**KEYWORDS** Design/Build Workshop, Live Project, Participation, Design Through Making

*Studio in the Woods* is an ongoing Annual summer workshop set up in 2005 where students test ideas through making at 1:1 in groups led by practicing architects including Piers Taylor (Invisible Studio), Charley Brentnall, Meredith Bowles (Mole Architects), Gianni Botsford, Kate Darby, Feilden Clegg Bradley Studios, Feilden Fowles, Erect Architecture, Architecture 00, Baxendale and Studio Weave, with Peter Clegg, Niall McLaughlin, Robert Mull and Ted Cullinan as critics/commentators.

This seven-minute film made by James Stephenson documents the 2017 Studio in the Woods, where 70 students worked in five groups over three days in the woodland owned and managed by Invisible Studio near Bath where five parallel groups of architects and students would design and construct a research project using trees felled and milled on site.

Most architecture students have limited contact

with real materials or construction and instead operate in a kind of parallel universe where projects are imagined in abstract at scale in a digital code space, a space where ad hoc, inventive and impromptu decision making is excluded from the design process. Studio in the Woods began as a reaction to this about 12 years ago, and grew out of an idea that making and the choreography of construction was important and not present in the curriculum of most architecture schools.

This way of working allows the richness of discovery, conversation and contingency to be incorporated in real time into the architecture. The anthropologist Tim Ingold calls this 'a way of knowing from the inside – a correspondence between mindful attention and lively materials conducted by skilled hands at the [material's] edge'

Studio in the Woods is unusual in that it doesn't really exist – it's an invisible studio in many ways.



There's no institution, no one owns it, no organisation funds it, no one audits it, and it is beholden to no one. It's a group of people – close friends – that have come together each year for the last twelve years, and each time there's never any duty that it will automatically happen again.

Studio in the Woods grew originally out of a frustration of having taught in institutions that we felt out of synch with, places where people talked about learning outcomes above all else, and out of a joy we felt in the chaos and surprise of making quickly at 1:1. Where we had to resolve issues on the hoof. Over time, we have all fallen in love with timber – it has been thrilling to embrace the tactile, volatile and almost carnal qualities of wood and test how the realm of digital simulation and fabrication can co-exist with adzes, spuds, cat's paws, hammers and chisels.

In many ways Studio in the Woods is a celebration of our diversity (as individuals, as a group) as much as our similarities and it isn't limited to a predefined ethos. Niall McLaughlin called it 'a place 'where builders, architects and students collaborate on projects, paying reverence to the overlooked and the nearby'.

Underpinning this move towards a different way of working is a fascination in using full scale making as a method of testing ideas, and using the process of consolidation or accumulation as a design tool. Rather than refining a prototype and then unveiling something perfectly formed and defect free, we are interested in allowing a prototype to be modified continuously and adapted so that it is allowed to become the 'final' piece, with modifications and mistakes made manifest.

Studio in the Woods has provided tutors and participants with a new model of working – one where new architectural forms and relationships could be discovered, rather than merely willed. One of the big questions many architects have is – if we don't merely want to use precedent or deterministic processes, how do we discover architectural form? With the model of working proposed at Studio in the Woods, allowing construction, material exploration and full scale making in real time went some way to answering this.

In addition, it provided a freedom from a world where only 'skilled' people could make things. The material relationships that are formed by alternatively-skilled (conventionally unskilled) people are often more interesting than those that are perfectly, and

blindly, crafted. We are fans of the 'bodged' joint where evidenced in it is the maker's journey of discovery. Of course the 'bodger', instead of being a cack-handed and clumsy labourer, was traditionally an itinerant worker who used green timber and found materials that led to unconventional timber joints and connections.

Architecture is, or was, full of concern with 'correct' detail and material expression. The Fall's Mark E Smith called Rock 'n Roll the 'mistreating of instruments to explore feelings', but in architecture, even at its most loose and improvised, there has conventionally been little room for the mistreating of tools to explore ideas – or buildings made by 'amateurs' or 'bodgers' without due regard for technique. This doesn't mean we don't care about how they are made. On the contrary, we care enormously about how they are made and the elemental relationships between components, but these relationships differ from those held sacrosanct by high architecture.

Studio in the Woods is also a celebration of the power of shared endeavour, the fascination of simultaneous and parallel diverse approaches of different architects, the joy of the happy accident; the intensity of bringing something to a conclusion in a short space of time; the visceral thrill of materials, and of timber; the heady pleasure of working outside in summertime; watching people at the top of their game and BD's pithy observation that it's not JUST a forum for a bunch of chainsaw wielding hippies, but it's also a forum for serious intellectual debate.



## Imagining the Commons.

DR ORSALIA DIMITRIOU.

*Central Saint Martins / University of Westminster.*

**KEYWORDS** Workshop, Commons, Short Documentary

A commons is a different way of living and organising that differs from the dipole of private and public, and is based on negotiation, collaboration and horizontal decision making.<sup>1</sup>

*Imagining the commons* is a short documentary about an interdisciplinary workshop that explored the idea of the commons as embodiments of critical spatial practices. The film was commissioned by the workshop organiser Orsalia Dimitriou and directed by Paul J. Cochrane. Funding for the workshop and the film was awarded by the Restless Future fund of Central Saint Martins (CSM).<sup>2</sup> The workshop took place in April 2015 in a spatially embodied common, the space of THE FIELD in New Cross.<sup>3</sup> It was open to Central Saint Martins BA and MA students from the departments of Architecture, Fine Arts, Performance Arts and Narrative Environments. It was also open to the wider community involved at THE FIELD. Over

a period of four weekends the workshop explored and questioned issues of materialisation, ephemerality and organisation of the commons, their potentials as materialisations of direct democracy and tools of political dissent as well as the role of designers and architects in commoning processes.

The space of THE FIELD in New Cross, which has been in operation since February 2014, has secured a five year rent-free lease and it is run by an organising committee of local residents. THE FIELDers describe it as “an experiment in creating a new kind of local institution that utilises arts and education tools and practices to create a hub for, and to be a catalyst of meetings, conversations, debate, ideas, learning and self-organised action for our area”.<sup>4</sup> All core decisions are taken during assemblies with open participation on a horizontal basis.



Figure 1. First meeting at THE FIELD (Orsalia Dimitriou).

The proposed brief of the workshop was to design and build a set of collaborative and communicative devices, such as furniture, cart, stall, props or similar, that could be used at the FIELD and exhibited at the degree show at CSM. In line with ethos of THE FIELD, the proposed brief alongside the design processes, methods and materials were negotiated between the participants and the community and were subsequently altered during the first workshop meeting. Instead of focusing on 'end product' design, it was agreed that the accent is placed on facilitating interaction between the community and the students and also between the students of different departments and disciplines. As a result, the student participants discussed, collaborated, helped the community with their existing projects, cooked communal meals and experienced the challenges of setting common goals, resource sharing and participatory design.

The outcomes of the workshop were fascinating and a valuable learning experience for the participants. Most importantly, all involved practiced commoning and had the opportunity to imagine different forms of commons, not only perceived as a reaction to the enclosures enforced in every imagined resource by the state and the market, but as a creative power that can shape our reality and future possibilities for an embodiment of critical democracy

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## Dry composting toilet at Lost City, Colombia.

**PROF. CARLOS HERNANDEZ CORREA.**

*PEI International Studies Programme, Pontifical Xavierian University Bogotá, Colombia.*

**KEYWORDS** heritage, social innovation, construction, multidisciplinary, accessibility.

PEI, the International Studies Programme from the School of Architecture and Design of the Pontificia Universidad Javeriana of Bogotá, has been working since 1996 with the objective to develop strategies and projects that go beyond the classroom. PEI's mission is to expand and connect architecture with different fields to generate new knowledge and innovative solutions that tackle social, political, economic, and environmental issues. PEI is committed to teaching excellence and developing creative architecture and design leaders with great social responsibility to make a valuable contribution in shaping the future of cities. PEI works with tight schedules, small budgets and limited resources. The focus is not only on big projects that tackle the big problems but also on small and medium scale ones. Through the use of collective intelligence PEI can collaborate with other disciplines, and work with other fields. The designs highlight the

area's diversity, heritage and encourage the use of local building techniques, indigenous architecture elements, and the use of locally sourced materials. PEI has worked on both national and international projects, workshops, and courses.

The PEI organised a Workshop at Lost City, Sierra Nevada Santa Marta and Palomino, La Guajira, Colombia; in collaboration with ICANH (Colombian Institute of Anthropology and History) team, and with the Anthropologist Santiago Giraldo, the Director of Heritage Colombia as workshop director.

The Lost City is located in the Sierra Nevada Mountains in Santa Martha, close to the Buritaca River, in a humid and mild climate. It is one of the main archaeological places in Colombia, and a unique characteristic is its inaccessibility, you can only get there by foot or donkey and it takes two to three days walking. On our way up the mountain we had the



opportunity visit some Kogi indigenous community. Also the anthropological research in the area has allowed archaeologists to reconstruct important aspects of pre-Hispanic cultures. These communities had, and have sophisticated engineering and architectural techniques using stones, to build terraces, bridges, stairs and canals.

PEI has worked for over 5 years in the community of Palomino, La Guajira, Colombia, close to Sierra Nevada Santa Marta, on a project called *"Palomino, Society Under Construction"* about social innovation.

Palomino is a community close to the ocean at the base of the Sierra Nevada Mountains that has many challenges such as clean water access and violence. The main objectives of the project were: social appropriation and social innovation; constructing dry composting toilets or "green machine artefacts" on different parts of the community, some of them in public spaces and others on private homes to encourage the inhabitants to adopt these kinds of technologies. PEI also worked and built a Cultural Centre and a Sports Centre. All of these projects were built with the Palomino community and PEI students and teachers. Because of our work with the Palomino Community, PEI was invited to develop a project a Dry composting toilet at the Lost City.

The objective of the workshop was to immerse the students into a real-life project, so they could be able to develop a social and sustainable sensitivity towards the Colombian communities, as well learning the design and construction process becoming familiar with the use of local materials, costs and efforts. Going local is one the objectives that the PEI aims for in its projects.



Figure 1. On the way (Faride Molina).

This workshop also involved the students to have the disposition to make an effort, a physical effort to get there, like many places here in Colombia, where the accessibility is not easy.



Figure 2. Last stage of the construction (by Francy Cruz).

The students created a design proposal with a social and sustainable innovation impact and with the capacity to be built within a week by the team. They understood the reality of the country and found ways to connect to the community through the design and the construction of the Dry Composting toilet. Learn-by-doing, is also a methodology the PEI used on this workshop.



Figure 3. Dry composting toilet construction process (by Simon Serrano).

The Workshop was a compliment for the semester's subject which was: Cultural Sensitive Housing Project. Where the PEI proposal is to encourage students to make social innovation through the projects as well as to rescue and use local and traditional materials for construction that has been undervalue when the concrete showed up.

*Bamboo-guadua angustifolia* has excellent sustainable and seismic-resistant qualities. It has been used on different projects done by the PEI. In a multidisciplinary effort with the School of Engineering, the PEI had the opportunity to test the *guadua* material in the Lab. It is an endemic plant of the Colombian tropical regions. The PEI believes in the potential of this plant used for architectural projects, because is sustainable and benevolent, from the sowing to the harvest if well managed.

### Film

Film about the Dry Composting Toilet Construction at Lost City – PEI Workshop, linked with the Palomino, La Guajira work and background; and activities throughout the semester about social and sustainability innovation.

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**Link:** <https://drive.google.com/open?id=OB29NUejFzmsNTnISZVBoYUcxX28>  
**YouTube:** <https://www.youtube.com/watch?v=uwByvwH9I2w&feature=youtu.be>



## Ice Station Oculus Prime.

**RANDALL KOBER.**

*Laurentian University McEwen School of Architecture.*

**KEYWORDS** design build, resiliency, wood structures, indigenous precedent, place

For a more detailed description of this project, please read the Case Study, “Ice Station Oculus” published in these proceedings.

### Film Description

Ice Station Oculus Prime is the work of first year architecture students at Laurentian University’s McEwen School of Architecture in Sudbury, Ontario. It served as a stop along the ice skating path on Ramsey Lake in the city’s centre this past winter. Students were given the opportunity to build at 1:1 the first project they had designed in architecture school. The team project was designed to foster collaborative values in the design studio and engage the school with the surrounding community. Contemplative, respectful building practices melding the area’s traditional First Nations, European immigrant, and contemporary society’s construction techniques were taught.

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**Location:** Sudbury, Ontario, Canada.

**Dates:** November 2016-March 2017.

**Participating Institution / Organisation:** Laurentian University McEwen School of Architecture, City of Greater Sudbury.

**Participating Discipline:** Architecture.

**Case Study:** Ramsey Lake Ice Station, Oculus Prime.

**Tutor Name / Team:** Randall Kober/H.

Bassan, L.Boyd, E.Bugaliski, E.Celestine, M.Demeo, T.Farmer, D.Fortes, D.Kanthria, L.MacEachern, B.McDonald, T.O’Gorman, J.Smith, L.Srimanmathan, H.Waqar, S.Wetteskind





## Events // A Decade of Student Led Collaborative Projects. Making Headway.

**LAURA SANDERSON.**

*Manchester School of Architecture.*

**KEYWORDS** student-led projects, student experience, collaboration, problem-based learning

Now in its 10th year, the Manchester School of Architecture's annual 'Events' programme has completed over 200 diverse live projects across the city and beyond. Collaboration drives each project's delivery, content and resolution. Now an annual focus, this fuels the programme's success by requiring students to step outside the protected environment of the School to engage in outreach projects. In this respect 'Events' sits between academia and professional practice providing students with different design-team experiences as they progress through their architectural education.

For two weeks each year approximately 400 students from three different levels of architectural education unite through 20 simultaneous projects

to work with local and international communities from beyond academia, architectural practices, arts organisations and research groups. Working with a collaborator, the brief for each 'Event' is prepared by groups of three or four students in the postgraduate March course and delivered to groups of approximately 16 undergraduate students from the BA (Hons) course in Architecture Years 01 and 02. Activities during Events are researched, designed, planned and taught by MArch students who are then assessed on their project management and delivery.

This film documents one such event entitled 'Making Headway' which was delivered in the 2014 programme of 'Events', funded by The Arts Council England and Stockport Metropolitan Borough Council



in collaboration with The Office for Subversive Architects and the Hat Works Museum of Hatting.

Located in Stockport, the project draws upon the rich industrial heritage of the town, which saw rapid expansion through silk mills, cotton mills and most notably hat manufacture.

Manchester School of Architecture were approached by Stockport Metropolitan Borough Council to create a backdrop for a millinery fashion show showcasing the work of 13 milliners in the early stages of their careers who had been asked to respond specifically to two key factors, firstly to building a sustainable brand and secondly to use the museum collections as inspiration.

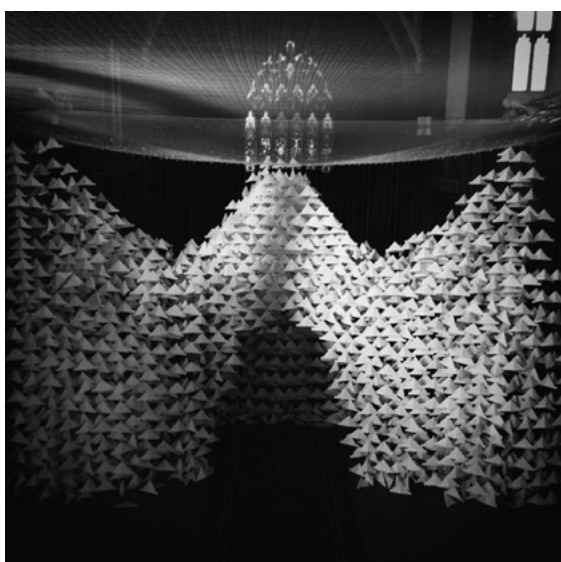


Figure 1. Final Installation Uninhabited (Manchester School of Architecture).

Comprising 10,000 paper hats, the final installation was student led and student facilitated, it took five days to design, five days to manufacture, two days to install and an evening to decommission. The backdrop hosted four fashion shows over two days which each showcased 70 hats. Over 700 people attended the shows which attracted local media attention. This film documents the process of the 'Event' and is in support of the academic paper entitled 'Events // A Decade of Student Led Collaborative Projects'.

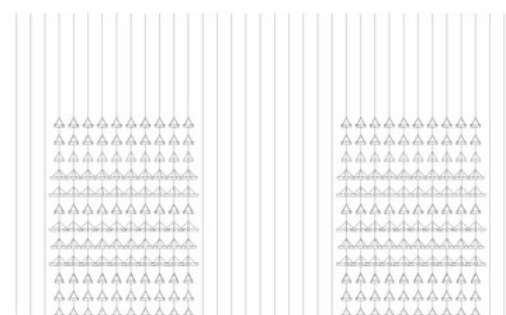
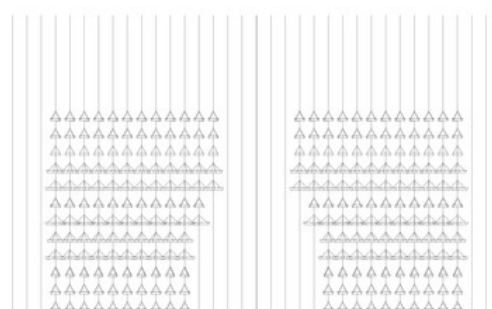
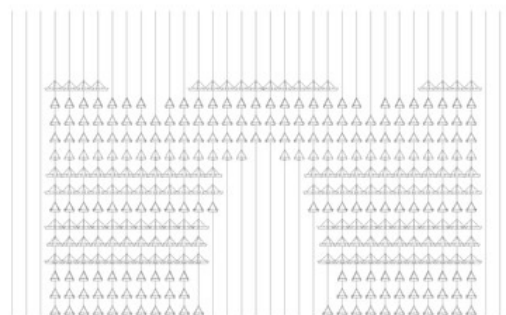


Figure 2. Layered Elevations for Hat Stringing (Manchester School of Architecture).

### Film "Making Headway":

<https://www.youtube.com/watch?v=b6lyrDpLVgc>

**Students:** Nathan Cox, Rachel Alt, James Nutt, Jake Stephenson-Bartley, Rachel Seabrook, Rebecca Faulkner, Hanah Arkell, Erika Mikulionyte, Valeria Szegal, Finbar Charleson, Viktor Petkov, Anthony Ip, Pascal Loschetter, Kate Wrigley.

**Facilitators:** Ellie Shouer, Chris Trundle, Patrick Cronin.

**Staff:** Laura Sanderson

**Collaborators:** Stockport Metropolitan Borough Council, The Office for Subversive Architects, Hat Works Museum of Hatting, The Arts Council England.



## Navajo Mountain Boarding School Project.

**RYAN HUESTON, MAGDALENA JADWIGA HARTELOVA,  
ELLA SCHOEFER-WULF, SHALINI AGRAWAL.**

*California College of the Arts, Center for Art + Public Life.*

**KEYWORDS** Navajo Nation, Architectural Restoration, Boarding School, Community Engagement, Interdisciplinary Practice

In the 1920's in the United States, the Bureau of Indian Affairs created a complex of buildings meant to house and educate the Navajo Nation's children at Navajo Mountain, Utah. The children were taken from their families and taught to ignore their cultural heritage in order to assimilate to a standardised education and what was regarded as a more modern, relevant way of living. This led to a lost generation cut off from their cultural wealth, as many families were unable to pass down the stories, crafts, and spiritual practices which are traditionally taught generation-by-generation.

Today, the reservation system makes it difficult, if not impossible, for indigenous peoples to leave and successfully make a living off of the reservation. This

contributes to cyclical poverty and denies all members of the community educational and economic opportunities that are available to most of the population of the United States. There are no yearly arts education or recreational programs currently established at Navajo Mountain. There is additionally a lack of infrastructure for community-oriented spaces; be it recreational or educational. The neglected state of the boarding school buildings and Navajo Mountain trading-post is only one facet in a legacy of failed systems set in place a century ago to teach new ways. Today, there is a huge need at Navajo Mountain for a centre through which the community can access well-rounded, cultural and artistic practices that in turn can inspire and educate a new generation of the Navajo Nation.

The Navajo Mountain Boarding School Project was awarded a 2016 *IMPACT* grant from the Center for Art + Public Life at the California College of the Arts in San Francisco. The Center for Art + Public Life supports student projects that are implemented collaboratively across disciplines with community partners, fostering a new generation of creative practitioners to develop meaningful practices. The award supported the interdisciplinary team of students: Ryan Hueston (MFA, Fine Arts), Magdalena Jadwiga Hartelova (MFA, Curatorial Practice) and Ella Schoefer-Wulf (MFA, Writing). Together they worked on Ryan's Navajo Reservation in Arizona. Through the renovation of historic boarding school buildings, the project aimed to create a space for Navajo arts and culture in a space historically used for the eradication of native identity.

Over the course of a month, the student team leaders led a group of students from California College of the Arts, and members of the community in a series of builds with the intended goal to create a visual archive of the buildings. The team members hosted a variety of programs, including community dinners that functioned as forums to discuss the future use of the buildings. Over the course of the restoration, however, it was discovered that the buildings were beyond salvaging on the original budget, and so the focus on the project went to creating an archive of oral histories surrounding the buildings and the community, with the goals to continue to work towards creating a space for the artists who teach the arts and culture of the Navajo people in Navajo Mountain.

The strong ties with community have extended the project beyond the grant period. Currently, the Boarding School Project is teaming up with the Painted Desert Project, an arts/youth engagement project spearheaded by local doctor Chip Thomas, to brainstorm the future of native youth, arts and culture on the Navajo Reservation.

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**Link:** <https://drive.google.com/open?id=OBzjOf2rmLLPiT2hMQXduRTZPemM>

**Website:** [www.navajomountainschoolproject.com](http://www.navajomountainschoolproject.com)





## Stairs.

DALIBOR HLAVÁČEK, PETR KORDOVSKÝ, LUKÁŠ LIESLER, JOSEF MÁDR,  
ŠÁRKA MALOŠÍKOVÁ, EDUARD SCHLEGER, HANA SEHO, JAN SVĚTLÍK,  
LADISLAV VRBATA, ZDENĚK ZAVŘEL, MARKÉTA ZDEBSKÁ.

*Czech Technical University in Prague.*

**KEYWORDS** wood, pedagogy, new material

The goal of this experimental workshop was to offer students of the five design studios of the Department of Architectural Design II at the Faculty of Architecture at CTU in Prague more than is demanded by the official studio course programme: the possibility to test their designs on 1:1 scale including all practical aspects. The workshop allowed students to convey their ideas into actual product and discover the craft features of architecture. The workshop was a warm up for the studio course of the winter semester 2015-16, starting at the beginning of the semester and finishing a month later. It helped students of each studio to get to know each other on the very first day of the school year and it had a positive effect on cooperation during the whole semester.

Inspiration was, among other things, drawn from similar workshops that are being regularly held by Professor Tom Emerson at ETH Zurich, but also from an organized visit to the Renzo Piano Building Workshop in Genoa, where the office courtyards are used to test and display full-scale mock-ups of various building elements and details.

Due to a very tight schedule the material was determined in advance. The dimension of the large-size boards was arranged in order to allow production of load-bearing components from only one piece. The assignment was to design a staircase 2.8 m high respecting the Czech regulations that apply to residential staircase design.

Every studio was provided with the same material and financial support:



- 2 pcs of spruce cross-laminated timber boards, 2500 × 6000 mm, 40 mm thick.
- 1 pc of pine plywood board, 1250 × 2500 mm, 10 mm thick (the boards were cut by CNC machines).
- Screws and other accessories, tools, scaffolding etc.
- 1000 CZK (33 GBP) per team for additional building material required by the design.

The course of the workshop had only general framework and schedule. Exact teaching methods of each phase, for example, a way of choosing the best staircase design to be built, was under direction of the leaders of each studio. During the first week, every student elaborated his or her own staircase design, including a 1:20 physical model. Every studio then set up a jury, and chose one design in accordance with the studio philosophy.

This was then followed by teamwork aiming to create a 1:10 or 1:5 physical model, detailed drawings, and to prepare the production and assembly of the studio's staircase. Selected designs were consulted with a structural engineer. The assembly itself took place in the courtyard of the Faculty of Architecture building. A shipping container was used as a central structure supporting the stairs - its roof, approached by five staircases, thus became an observation post and a resting deck. An exhibition of preliminary physical models was set up inside the container.



Figure 1. Students of Studio Zavřel-Zdebská at work (Kotek).

Two of the designs were spiral staircases; one with a central load-bearing tube and cantilevering stairs, the other with more complex tread-railing pieces assembled one atop the other and screwed together with a double-thread screw. The three remaining staircases were straight, varying in their structural solutions, tread-railing connections and solution of the

tread itself.

The finished object became a popular meeting point for both students and passers-by and an excellent manifestation of the creativity of the students of the five studios: Hlaváček–Schleger–Liesler, Kordovský–Vrbata, Mádr–Malošíková, Seho–Světlik, and Zavřel–Zdebská.



Figure 2. Final inauguration (Ryszawy).

The workshop initiated on October 1, 2015 and culminated by an official opening in the presence of the Dean of the Faculty of Architecture and the Rector of the Czech Technical University on November 2. The subsequent exhibition was held until November 18, 2015.

Despite having accomplished the demanding schedule in time, it turned out to be difficult to coordinate subcontractors of advanced technological production (which could not be realised manually at the construction site). The task remained at the level of academic assignment and staircases were left with no further use. Therefore, for the upcoming academic year 2017/2018, we set ourselves a new challenge – to design five pedestrian bridges, which will be built in the CTU campus and later on placed in The Krkonoše Mountains National Park.



## Birnbeck International Film Institute.

**MATTHEW HYNAM, STEVE BROWN.**

*University of The West of England, Bristol.*

**KEYWORDS** Society, Live, Design, Film, Architecture

This film reflects on a year-long collaboration between Masters of Architecture students at the University of The West of England (UWE Bristol) and Birnbeck Trust. Over the course of the year students were tasked with developing proposals for an International Film Institute to be constructed on Birnbeck Island near Weston-Super-Mare. What became the experimental pedagogical move from the project was how the students began to take filmic techniques and adapt them as tools to engage with the complex and physical conditions of the island.

Birnbeck Trust are a charitable organisation set up to consider how Birnbeck Island can be saved and regenerated. Birnbeck Island was a prominent Victorian amusement attraction which since its heyday has fallen into disrepair and become a dystopian ruin. Today the rides have gone. All that remains is the skeletal structure of a pier to the mainland, a ferry

boarding pier and a number of dilapidated listed structures. The complexity of the structures and the social and economic backdrop of Weston means that any proposals for the island need to consider carefully how they can be sustained into the future. Alongside this is the complex geography of the island, a limestone outcrop which sits 300m from the shoreline of the Bristol Channel with its fast-moving water and 13m tidal range, the second highest in the world.

With the trust unable to formulate a brief that can tackle these issues, Architect and lecturer Matthew Hynam developed a brief for students to explore and challenge how the site may be reused. Within this Matthew developed a brief for an international film institute that required students not only to think how they might engage with wider society and the context but how filmic techniques might be used within the design process to enrich the project. This process

builds upon previous research by Matthew who during his MA developed a palette of filmic transitions to read and intervene within space.

For the Birnbeck project, students were asked to go beyond the typical architectural tools of sketching and modelling and embrace new filmic techniques for recording society and the landscape through photography, digital modelling, storyboard narrative generation and filmic mapping using a drone. The drone mapping allowed for the creation of a photogrammetric model which became a crucial part in students' understanding of the ethereal qualities of this shifting site and allowed them to record in subtle detail its periphery. This in turn allowed them to develop proposals that played with the threshold between the estuarial tidal range and the limestone outcrops of the island. Students began to develop ideas of interweaving past and present narratives, using filmic transitions such as cuts, fades and dissolves to explore how one might create a range of spatial thresholds at both a master planning and building programme scale.

For the Trust the collaboration has provided a set of ideas for how the island might be regenerated for the 21st century. The success of the project has also established a further live project where UWE Master of Architecture students will refine the material further through collaboration with the Trust and the wider community to create a detailed brief and proposals for Birnbeck.



## Kitchen on the Run.

JOHANN ANGERMANN, BENJAMIN GLITSCHKA, KATHARINA HEIM, MATHIAS NIEPENBERG, MARC BENJAMIN DREWES, CHAIR OF ARCHITECTURAL DESIGN AND CONSTRUCTION PROF. DONATELLA FIORETTI.

*TU Berlin.*

**KEYWORDS** kitchen & container, locals & refugees, cook & share

For a more detailed description of this project, please read the Case Study, “*Kitchen on the Run*”, published in these proceedings.



Figure 1. Still from the film, Kitchen on the run

### Film Summary

In 2016 a shipping container transformed into a mobile kitchen has been traveling throughout Europe to offer refugees a cosy place to meet new neighbours. Every day about 25 locals and newcomers cooked and had dinner together. That way people from various backgrounds and different ages got the chance to meet each other.

*“We have cooked and told stories, we have cried and laughed together, we have sung and danced together. Every night has been diverse just like its guests. Still all events have one thing in common: each of the more than 2,300 guests from about 70 countries who visited our container felt welcome!” – Kitchen on the Run*



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**Website:** [www.kitchenontherun.org/english/](http://www.kitchenontherun.org/english/)

**YouTube Channel:** [www.youtube.com/channel/UC6NvLN2c2LhaNdASYHDiO1A](http://www.youtube.com/channel/UC6NvLN2c2LhaNdASYHDiO1A)

**Chair of Architectural Design and Construction**

**TU Berlin, Professor:** Donatella Fioretti

**Assistants:** Marc Benjamin Drewes, Simon Mahringer, Christoph Rokitta

**Students:** Michaela Apfler, Philine Barbe, Sophia Braun, Ammon Budde, Theodora Constantin, Marcel Hecker, Lya Kröger, David Leinen, Jonathan Lewkowicz, Juri Lux, David Potthast, Benjamin Schaad, Judith Schiebel, Stefan Schöllhammer, Anton Sieber, Nico Sonnenbrodt, Corinna Studier, Vanessa Vogel, Jonas von der Wall

**Helping Hands:** Stefan File, Jennifer Kegler, Martin Rudolph, Lisa van Heyden, Paul Walter.



## Marble Pavilion.

**CHRISTINA GODIKSEN.**

*Cultural Geometries / Oxford Brookes University.*

**THEO JONES.**

*Cultural Geometries.*

**KEYWORDS** Pavilion, Waste, Catalan (Catenary) Vaults, Marble, Re-use

For a more detailed description of this project, please read the Case Study, *“Pavilion For Education And Research”*, published in these proceedings.

### **Film Summary**

In the town of Vila Viçosa, Portugal, where everything from castles to kerbstones are made out of marble, our pavilion is the first non-reinforced marble structure for over a century, and the first to be exclusively built from marble waste and with this type of structural system.

The design research has from the beginning been integrated into undergraduate teaching. Students have lead particular lines of enquiries and collectively worked directly with the Quarries, Marble factory, Geologists and the community. We are inherently

motivated by culture. Methodical knowledge exchange year on year, critical reflection, debate and further experimentation are the core components to the research lead teaching and praxis. (Patti Lather 1986 Research as Praxis) (Venturi & Scott Brown, Yale, 1969). Leading to the design and construction of our first architectural scale experiment.



## A Place To Be. Black experiences in Portland.

**B.D. WORTHAM-GALVIN, PH.D.**

*Clemson University.*

**KEYWORDS** tactical urbanism, culture, design, identity, equity

Who makes place and who occupies it? Who is left out and behind in traditional design and development issues? What happens when a primarily white city (Portland, Oregon) and a primarily white discipline (architecture in the U.S.) tackle design-based inequities? How do spaces construct a particular worldview for their occupants; how has the discipline of architecture passed on that worldview; and how has the profession embedded that worldview within the built environment? What does it mean when the perceptions and values of the praxis of architecture differ greatly from those with whom we are supposed to be designing? These questions were asked as part of the *A Place To Be* project (funded by a grant from the United States, National Endowment of the Arts).

Begun in 2015, *A Place to Be* asked why Black experiences in Portland had been rendered invisible. Drawing upon oral history, participatory and social

practice methods (as well as conventional research), *A Place to Be* innovates the notion of place-based research by documenting (just a fraction of) the varied historic and contemporary Black cultural experiences, productions and impacts on the city. The film shown at the 2017 *Architecture Connects* conference features interviews with three Black artists involved with the project as well as a few overlay images of work produced during the project to include the *Pop Up Porch*.

Urban issues that formed the basis of the place research included: poverty, affordable housing, access to food, economic opportunities, environmental justice, access to transportation, neighbourhood formation, access to institutions, education, complete streets, displacement, right to return, urban agriculture, etc. While grounded in primary data collection (archival, demographic, statistical, interviews, and community

outreach) and supported by secondary source reading, the outputs are not in the form of traditional papers and reports, but rather in visualisations and social art practice as a way to make place-based research visible and relevant to the place issues faced by Black residents.

Research outputs include infographic visualisation posters and short films revealing institutionalised displacement, gentrification, marginalisation and dispersal of Black residents. The initial investigations developed into research-based design documenting potential sites, programmes, and visions for a defined A Place to Be as a way of prompting conversations with and within the Black community of needs, wants, and desires to ameliorate their loss of place. This research-based design was done through interviews and workshops with a variety of Black community organisations, leaders, and artists.

In addition, performative research was initiated with the Pop Up Porch, a temporary structure meant to catalyse this research-based discussion and make it public. The methodological philosophy promoted - "We will provide the porch. You will talk. We will listen. A Conversation Experiment to discuss creating a space in Portland where Black Art and Culture is created, taught, discussed, celebrated and witnessed" - was critical to innovating research within a culture of oral traditions.

Why provide a porch? Historically the porch has provided a place for gathering by the Black community in order to share stories, pass on traditions, and strengthen identity. Expressing plans and dreams would all happen on the porch as the only historically accessible public space for African-Americans. The porch is painted haint blue because the first painted strokes of the colour were in the simple shacks of African slaves. Haints are spirits trapped between the world of the living and the dead, who are unable to cross over water. The slaves had an elegant solution. They created the haint blue paint to look like water so the spirits would become confused and tricked into thinking they could not enter. The slaves used this colour to paint their porches and other openings in their homes. The now ubiquitous tradition of painting porch ceilings haint blue continues today and demonstrates how African heritage is a part of American culture.

This research aims to make the Black heritage

of American culture visible and provide alternative methods for those left out of place design and development decisions to reassert their presence and agency.





## Colorado Outward Bound School Micro Cabins.

JESSE KUROIWA, ERIK SOMMERFELD, ANDY PADDOCK,  
JD SIGNOM, WILL KONING, SCOTT LAWRENCE.

*University of Colorado Denver.*

**KEYWORDS** Collaboration, Community, Housing, Co-production

Located on a steep hillside in a pine forest, the Micro-Cabins in Leadville, Colorado, were designed as micro dormitories for the Colorado Outward Bound School. The cabins sit lightly on the landscape, elevated above the winter snow pack on steel columns. The client brief called for 21 cabins, seven senior staff insulated cabins for year-round use and 14 un-insulated cabins, to meet the housing needs during peak season.

In the spring of 2015, the first group of 28 students undertook the 14 un-insulated cabins. Fundamentally the project had to solve a series of issues unique to the high mountain context. First, how to structurally handle extreme snow loads? Second, how could the cabins adapt to the varying topography of each site? Finally, how could the cabins be constructed to minimise the construction time on-site with a project

inaccessible to large equipment, including cranes?

To answer these questions, the cabins were conceived as two simple elements: a “box” and a “frame.” The frame, consisting of three structural steel bays, handles both the gravity and lateral loads of the building adapting to the unique topography of the site. A snow roof of steel N decking, able to span 12’ while supporting a 100 PSF snow load, completes the frame. Resting inside each super structure is a prefabricated cabin. The orientation and articulation of each of the 14 cabins react individually to the immediate site conditions present in the landscape. No two cabins are alike. Hot rolled steel cladding provides a low maintenance rain screen for the structure. This cladding and the vertical columns of the frame blend with the pine forest, minimising the visual impact. The cabin interiors are skinned in birch plywood bringing

warmth to the structure and evoking a connection with the trees surrounding the site. Each of the individual elements of the cabin - the prefabricated walls, CNC millwork, and steel structure - were designed to fit on the back of a small flatbed truck and be carried by no more than four people into the site. This system of prefabricated elements reduced the on-site construction timeline to 30 days.

In the spring of 2016, the second group of 28 students designed and built seven insulated cabins for year-round use. These structures were required to meet the standards of the International Energy Conservation Code climate zone 7&8 (the coldest zone in the United States).

While some of the same questions remained from the first year of the project, a post occupancy evaluation carried out between the two semesters, revealed new information to be considered. First, how could this set of cabins create more intimate exterior space for the senior staff of the school? Second, given the added requirement of insulation, and the minimal power dedicated to each cabin, how could these cabins leverage nature to aid in insulating the structure? Finally, given that the lessons learned in 2015 how could these cabins be improved regarding project delivery?

The design solution takes advantage of the structure being integral to the cabin, a departure from the 2015 cabins but an improvement in the final project delivery. Using prefabricated structurally insulated panels (SIPS) the exterior spaces are *carved* from the rectilinear cuboid form of the buildings. These outside spaces are clad in cedar to bring warmth to decks and other outdoor spaces. To increase insulation in the structures, the students took inspiration from quinzees, a snow shelter made from a hollowed out pile of snow. Adapting the logic of *snow insulation* for their structures the cabins roofs are designed to hold the snow in the winter, providing an additional R-20 to R-30 of insulation depending on the depth of the snow. A single electrical circuit powers each structure. The small cabin footprints accomplish this using LED lighting, and the superinsulation of the SIPs combined with the snow's natural insulation. This efficiency represents the Colorado Outward Bound School's commitment to the environment.



Cabin D. In the distance is Cabin F. Two of seven cabins from the 2016 project (Jesse Kuroiwa)



## Anchoring. A Second Obstruction.

**PROFESSOR ROGER MULLIN.**

*Design, Prototype, Build / Dalhousie University.*

**MATTHEW REYNOLDS.**

*Design, Prototype, Build.*

**KEYWORDS** prototypical architecture, elemental, design-build, installation, landscape.

Student team: Tyler Fissel, Alexander Vanderlee, Samuel Walther-Battista, Matthew Reynolds, Cassie Burhoe, David Burlock, Charles Freeman, Daniel Jolivet, Kyle Smith-Windsor, Adam Sparkes, Guillaume Turbide.

‘Anchoring’ is the second in a series of five intended, iterative projects that deploy an open strategy and a series of constructive elements in response to site, available tools, limited budgets and project partners. This iteration took a group of 12 students and our kit of parts to the beautiful Havre-aux-Maisons Magdalen Islands, Quebec, Canada.

The project is land art inspired with architectural motives. It aims to work with a selected site and a structural design of modest means, arranging the elements in an impactful way that works with the scale

of the larger landscape and the terrain of the specific site.

The specific material palette includes 80 repurposed floatation buoys, several hundred yards of rope, purpose made steel anchors and 25 locally harvested poles.

Acting as a large structural model that creates a datum in the landscape the work allows students to understand scale, structural forces and experience the activities of tuning the specific parts (angles of poles, ropes and anchor positioning) to optimise near and distant views of the project.

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**Link:** [https://drive.google.com/file/d/OB\\_ygbYro6lGOYkNCdmtUT2Jfdms](https://drive.google.com/file/d/OB_ygbYro6lGOYkNCdmtUT2Jfdms)

**Vimeo:** <https://vimeo.com/136551769>





Figure 1. Final Installation view from highway. (Roger Mullin).



Figure 4. Lunch Break during final installation. (Matt Reynolds).



Figure 2. Final Installation view. (Roger Mullin).



Figure 3. Mock-up. (Matt Reynolds).



Figure 5. R. Mullin, Scaling and determining support angles (Matt Reynolds).





## Frirom. A Space for Grieving.

**PROFESSOR STEFFEN WELLINGER,**  
**ARCHITECTS: SUNNIVA HUUS NORDBØ, MAREN STORIHLE ØDEGÅRD.**  
*NTNU Live Studio.*

**KEYWORDS** Live project, student driven, diploma, design-build, healthcare

### About the project shown in the film<sup>1</sup>

The little structure on the roof of St Olav's Hospital is a reply to a simple question:

"I have just been told my child is dying. Where can I go?"

People in emotionally precarious situations are especially sensitive to their physical surroundings. Nurse Mads Bøhle saw the need for a place at the hospital where family and visitors can retreat and be alone with their thoughts.

Frirom was developed as an architecture Master's thesis at the Norwegian University of Science and Technology. The design is a spiral with an inner circular space, a shape that embraces the visitor and provides a sense of control of the surroundings, while keeping the exit clear and visible.

Frirom is a small timber structure, built with digitally produced timber elements, insulated externally with recyclable wood fibre mats and clad with braided aspen strips. The sky-lit interior has a wool-covered mattress and one large cushion, and by leaving your coat and shoes at the door you signal to others that the room is in use. The appearance of Frirom changes throughout the day and year. During the day, it offers a glimpse of the sky outside. When darkness falls, the ceiling lights appear brighter, and the room seems smaller. Origami cranes are attached to the lights. The ancient Japanese art form is associated with hope and happiness. Children, patients' relatives and other collaborators have folded the cranes, as a symbol of hope. A sound installation designed by music students from NTNU provides a gentle backdrop.



Figure 1. Frirom on the roof of St. Olav's hospital in Trondheim, Norway (Photo: Pasi Aalto).



Figure 2. Opening ceremony (Photo: Ole Tolstad).

### Transcript of TEDx Talk given at TEDx Trondheim 6.11.16 by Steffen Wellinger<sup>2</sup>

Cecilie, a mother of a three, lived with her 14 year old sick daughter for many months in the brand new St. Olav's Hospital in Trondheim, Norway. On the 7 June 2009, the doctors had to tell her that there was no longer any hope of her daughter surviving cancer and that she couldn't leave the hospital for the summer. A devastating thing to be told, which of course triggers an avalanche of emotions. Cecilie was going through the toughest time of her life but she also wanted to protect her daughter from losing all hope.

She needed to leave her daughter's hospital room and find a space to be alone. But where could she go? Where could she cry and shout, be angry or even be just silent? Wherever she went in the hospital, even in the chapel, she would be part of the public realm.

She ended up in the common toilet, and you can guess where she had to sit...? A practical solution, but without dignity.

At NTNU Live Studio we support architecture students working with real problems and with real people. We heard the touching story about Cecilie and her sick daughter when Mads Bøhle, a welfare nurse, came to us. This was the start of a wonderful, tough and emotional journey for all of us, the making of Frirom.

Frirom which means space of freedom, became a simple yet challenging assignment to create a safe enclosure for relatives and patients to escape from the exposed hospital environment. Frirom started as a Masters thesis in architecture by the architects Sunniva Huus Norby and Maren Storihle Ødegård and they approached the design of Frirom using a collaborative process involving users and stakeholders in all phases and decisions of the design.

Through this involvement, we get inside in the real needs and ultimately led users to gain a sense of ownership over a space – because all involved have become co-designers.

In the early stages, the two students, Sunniva and Maren, had many decisions to make. For example, one question was how big Frirom should be to host 1, 2 or 3 people in vulnerable situations. How much space do they need to be comfortable? And especially as Norwegians typically have a large personal space.

To explore this question of size, the students visited the hospital priest who has a lot of experience in talking with people going through tough times. They observed the setup and how far away the priest would typically sit from a visitor. This helped them to determine how big Frirom should be and what kind of furniture they should choose.



Figure 3. Hospital chaplain (Photo: Sunniva Huus Norbø).

If you are not educated as an architect, you might not speak the language of blueprints. It is therefore important to focus on alternative and good communication to get a real collaboration platform. Among other tools, we built several forms in real size and asked families of hospital patients and staff to experience them and try them out.



Figure 4. 1:1 Mock-up (Photo: Sunniva Huus Norbø).

Based on this feedback, it was clear that they preferred a circular space that is focused around a centre. This gives a stillness and stands in contrast to the many angular rooms in hospitals. We designed a spiral shaped pavilion in which the snail form leads you gently into the main space and gives a clear and protected enclosure without many doors and transitions needed.

Due to the young architects' commitment, years of voluntary work and many helping hands, the prefabricated pavilion was finally lifted on to the roof terrace of St. Olav's hospital on 7th of June 2013, exactly 4 years after Cecilie's sad experience initiated the making project.

Only those who really need it have access to Frirom—but today I will make an exception for you.

You reach the pavilion via a roof terrace with great views over Trondheim and the surrounding nature. Being in Norway, it could be snowing, raining or sunny. Whatever the weather, this natural transition was important to the interviewed families of patients to get away from the sterile, controlled hospital environment. Entering, you sit down, take off your shoes and coat and prepare for a relaxed use and show at the same time that the space is occupied.



Figure 5. Frirom on the roof (Photo: Pasi Aalto).

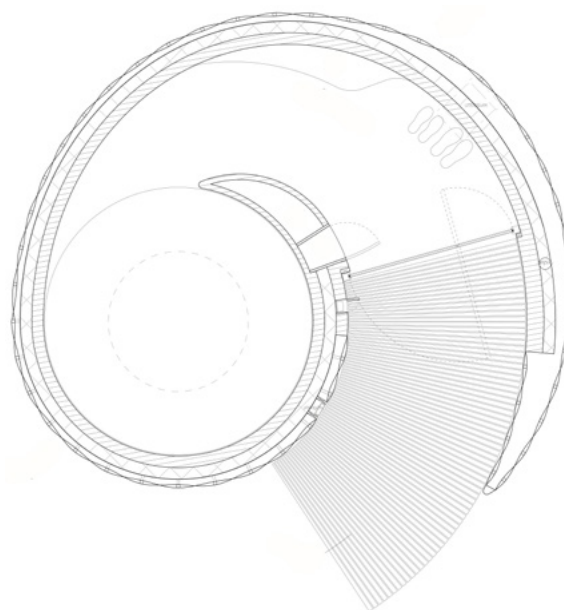


Figure 6. Floorplan.

In the main space you lie down on a large mattress and have a view to the changing sky. Your focus is lifted up and the verticality in the spaces gives associations to sacred buildings without being linked to one religious expression.

Research shows that natural materials gives you the feeling of healing and many of us connect especially the use of wood to familiar and comfortable environments.

That's why we aimed to produce FRIrom complete out of local wood. Combining traditional log-house techniques and modern digital CNC production, 24000 wooden bricks like this were milled out of 50mm sticks of left-over pinewood and assembled together like a puzzle.





Figure 7. Installation (Photo: Sunniva Huus Norbø).



Figure 9. Interior (Photo: Pasi Aalto).

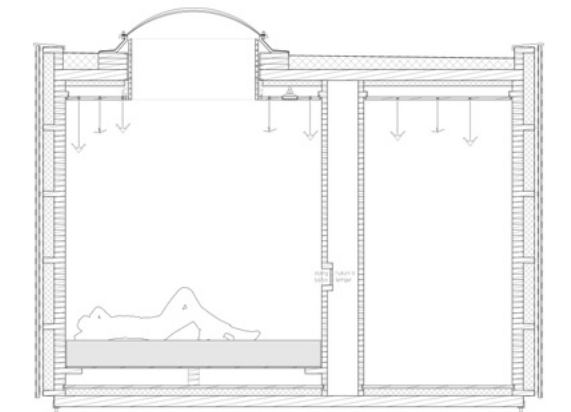


Figure 10. Section.



Figure 8. Entrance (Photo: Pasi Aalto).



Figure 11. Central space (Photo: Pasi Aalto).





Figure 12. Bench (Photo: Pasi Aalto).

If you look closely, no two blocks are the same. The architects, Maren and Sunniva aimed to create this feeling, so that those using the space could look upon the patterns and have another focal point and drift away.

Users told us that watching the wall gave similar experience as looking at flames in a fireplace. The patterns in the tree rings start to vibrate and get vivid.



Figure 13. Skylight (Photo: Pasi Aalto).

A swarm of origami cranes circles around the skylight in the ceiling. They are based on a Japanese legend and the story about Hiroshima bomb victim Sadako Sasaki which promises that anyone who folds one thousand origami cranes will be granted a wish.

For the Frirom, friends, patients and relatives folded cranes in several workshops and even though there's not space for a thousand cranes in the ceiling, they express a feeling of hope.

To make the origami cranes glow and twinkle we installed light sources in them.

Due to limited resources, we had to do the wiring of the light ourselves. And, as often happens when amateurs like me do this kind of things, we did bad work and quite a few broke.



Figure 14. Wiring workshop (Photo: Sunniva Huus Norbø).

The welfare nurse Mads, takes care of the Frirom space on a daily basis and noticed the broken fittings. He planned on fixing them, but you know what? The users of Frirom asked him not to. They explained that to them, the extinguished lights have become symbols for loved ones that have passed away

Even without knowing Sadako Sasaki's story, the physical Frirom space has become intertwined with personal feelings, hope and THEIR stories. Through use, parents and patients have established a feeling of ownership and contribute to the evolving space.



Figure 15. Cranes (Photo: Pasi Aalto).

There are many Cecilies out there. They are mothers, daughters, fathers, friends, colleagues brothers and sisters. Let's listen to their needs.

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**Address:** Women and Children's Centre, St. Olav's Hospital, Trondheim, Norway

**Completed:** 2013

**Architects:** Maren Storihle Ødegard and Sunniva Huus Nordbø, both archs. MNAL

**Idea and user's representative:** Mads Abelsen  
Bøhle, welfare nurse, St. Olav's Hospital

**Consultants:** Steffen Wellinger, arch. MNAL/NTNU;  
Ragnhild Aslaksen, arch. MNAL/St. Olav's Hospital;  
Pasi Aalto, arch. MNAL/NTNU; Joakim Dørum,  
Green Advisers AS, St. Olav Eiendom, St. Olav Drift,  
SINTEF (acoustics), Lights and sound: Bjørn Thomas  
Melhus and Gullik Gulliksen, both master students in  
Music Technology NTNU; Sigurd Saue, NTNU; Stefan  
Gemzell, Ljusdesign

**Area:** 9 sq.m. usable area / 17 sq.m. total footprint

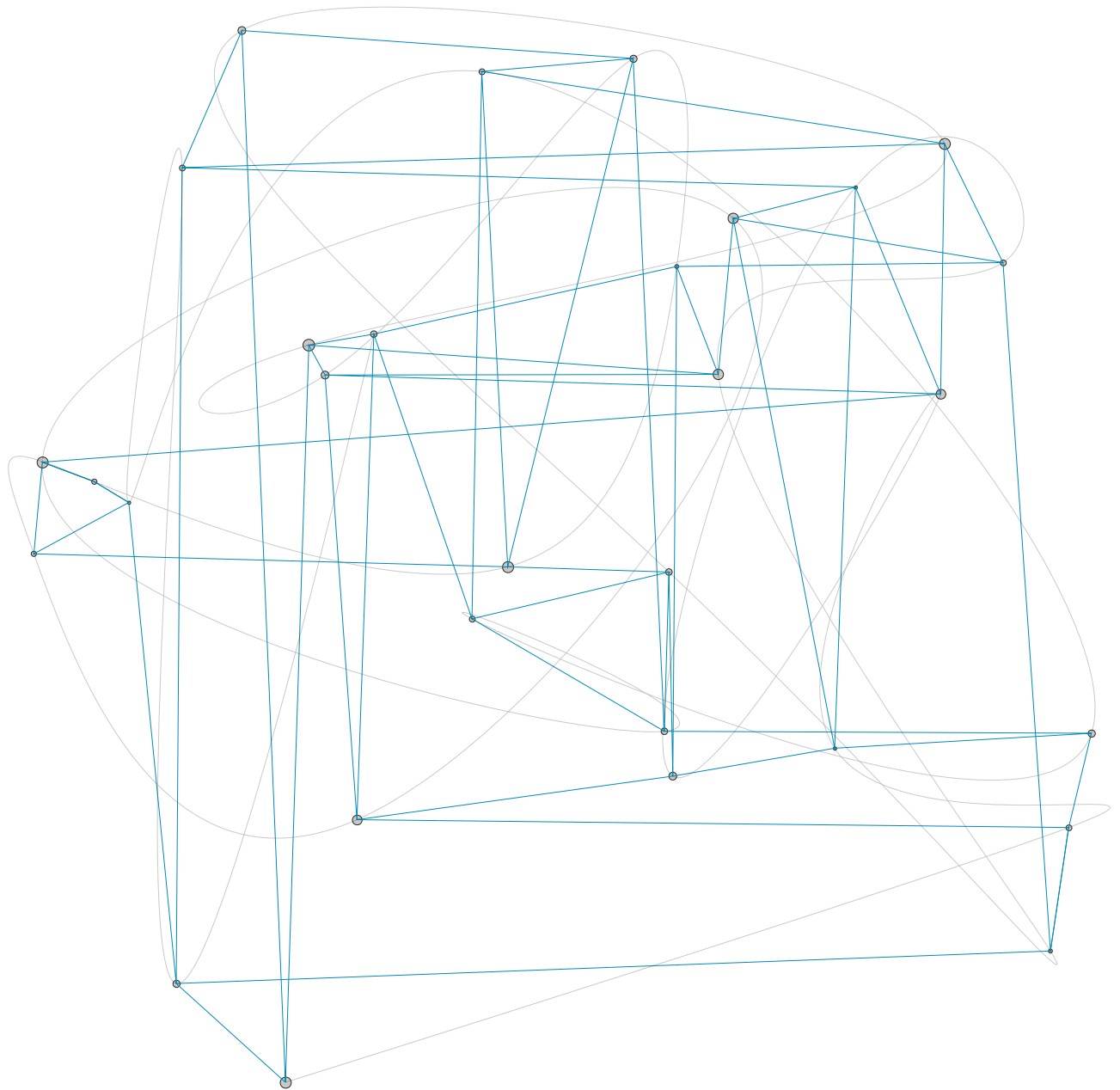
**Cost:** 925,851 NOK incl. VAT+ volunteer work

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## CHAPTER 5

# Workshops











# Creating Learning Environments and Communities for Inter-disciplinary Collaboration.

ESRA KURUL, NICK SPENCER-CHAPMAN, EMMA WRAGG AND REGINA LIM.

*Oxford Brookes University.*

**KEYWORDS** inter-disciplinary, collaboration, learning environment, boundaries, silos

Social, Technological, Economic, Environmental and Political (STEEP) shifts, are resulting in complex problems. “[E]xpertise from multiple disciplines is needed to solve them.”<sup>1</sup> A Systems Thinking-inspired, inter-disciplinary approach, and a high level of agility is needed to deal with the changing nature of these challenges.

The Built Environment (BE) sectors across the globe have an important role to play in responding to these challenges. They have traditionally been discipline-focussed in terms of learning, teaching, research, and practice. In the main, the inter-disciplinary interactions are transient and can lead to poor project performance. There is a need to reconcile the dilemma between the need to work across disciplinary boundaries and the traditional silos. Appropriate approaches to overcoming the challenges of inter-disciplinary collaboration, and thus fostering it, should be determined.

These challenges have been acknowledged both in teaching and learning,<sup>2</sup> and in practice.<sup>3</sup> The differences in the ‘ways of knowing’ in different disciplines, the difficulty of establishing common aims and objectives, and the lack of trust, at least initially, are widely reported amongst the barriers. Explanations given for a lack of cross-disciplinary teaching initiatives in HEIs include faculty competition for resources, differences in pedagogy and practice, discipline specific protectionism, differences in faculty workloads and departmental concerns about power and control.<sup>4</sup>

Despite these institutional barriers, an increasing number of HEIs are now creating specific opportunities for students to engage in

interdisciplinary learning. These take various forms including extra-curricular interdisciplinary research projects and live projects, University wide non-credit bearing online interdisciplinary courses tackling global challenges and interdisciplinary cross-faculty modules.

Our literature review suggests that fostering inter-disciplinary collaboration in HEIs is largely discussed in terms of the features of these initiatives. Whether they help develop practitioners who can readily collaborate across disciplinary boundaries, is yet to be established through empirical studies.

Research into effective interdisciplinary collaborations<sup>5</sup> highlight the following:

- Diversity of individuals trumps their ability;
- The best collaboration may not feel harmonious;
- Weak ties and therefore networking skills are vital in bridging discrete islands of knowledge and expertise.

Despite their importance, such dynamics of collaboration, are largely overlooked in the literature on interdisciplinary learning opportunities in HEIs.

This workshop aims to critically evaluate the current thinking and practice on inter-disciplinary collaboration from a different standpoint. The perceived wisdom that creating opportunities for interdisciplinary collaboration, e.g. live projects, as part of the curriculum, will develop practitioners who can collaborate across disciplinary boundaries, will be challenged. The importance of helping students understand the dynamics of inter-disciplinary teams, e.g. diversity, and develop skills to effectively function as part of such teams, will be highlighted.

The workshop has been designed and will be run by a multi-disciplinary team of academics with

backgrounds in architecture, urban design, civil engineering, construction, land management and infrastructure development policy. It will start with a 'reverse (or negative) brainstorming' session, which combines brainstorming with reversal techniques.

Groups of participants will be asked to devise an education system for the built environment sector. They will be invited to generate scenarios as to how they could make it almost impossible for students to share ideas and work effectively together. Each group will then report one idea at a time. The convenors will represent live mind-maps of these ideas.

The groups will then work in reversal mode to turn their original scenarios into those that would foster inter-disciplinary collaboration. Each group will present their 'solution' to others as part of the general discussion. The purpose of this discussion is to identify which aspects of inter-disciplinary collaboration HEIs should focus on.

The convenors will bring the workshop to a close by relating the outcomes of the group discussions to their own hypothesis that contrived multidisciplinary exercises are of limited benefit and may even act to reinforce disciplinary stereotypes.

Instead, they will argue that HEIs should place more emphasis on:

- Shared (across disciplines) modules or lectures based on case or problem-based learning. These should identify problem situations which have occurred in practice. They should focus on the process of interdisciplinary collaboration as an opportunity to learn about and from its dynamics;
- Actively developing students' understanding of the dynamics of teams and personal relationships, and behaviours within teams; and their ability to function effectively in interdisciplinary teams.

The convenors aim to present the results of the workshop discussion as a working paper soon after the conference, and develop it into a journal article in due course. As such, the workshop discussion is considered to be an opportunity to critically evaluate current practice in HEIs and generate novel ideas on effectively nurturing inter-disciplinary collaboration.

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# Failures (Challenges).

URSULA HARTIG.

*cocoon-studio, Germany.*

**KEYWORDS** Academic DesignBuild, Failures & Success, Publication

Doubtless, we - faculty, students, clients, builders, organisations - would be happy to learn from failures in this complex endeavours of academic DesignBuild, Live Projects, Real Projects and similar educational structures that are embedded in a real local and social context.

In addition to the paper "Learning from Failures" (published in the *Architecture Connects* Conference Proceedings), this interactive workshop aims to address failures and to develop the means of not only sharing them and the resulting learning outcomes, but to encourage open discussion of failure (and success) and ask for support in practise. You as participants are invited to share your experiences and methodologies and to discuss this difficult issue openly.

As starting point I will present a DesignBuild project that I directed that appears to be of high spatial and architectonic quality but that fell apart within a short period of time and became a burden for the user. I will specify the failure(s), outline the different actors with their ambitions and define the criteria, causing the malfunction.

First interactive part will be a discussion on the participants' expectances in this workshop and about their own failures and successes. The emphasis lies on the fact that only success is reported and published but no one talks about or shows the failures. The discussion will follow the questions:

- Why are the participants interested in this topic and what do they expect to hear?
- How would the participants define failure or success?
- Are these names appropriate or should we find another denomination?
- What and under which conditions would they be willing to share?
- What is the participants experience with failure in

this sort of projects? What stories can be (should be) told?

- What restrains the participants from admitting, discussing and publishing failures?
- Who is responsible and to what extent?

A definition including a possible renaming of the terms 'Failure and Success' will be developed. The contributions will be categorised and success-criteria will be extracted.

In a second step, the participants will be asked to split up into groups to work on the following questions:

- Is there a clear and comprehensible (documented) idea about a successful (or failed) outcome in their projects? What is it and who is benefiting? (Success-criteria) Who is negotiating and setting it up?
- Do the participants implement an analysis or an evaluation in their projects? On which levels, for which criteria? Would it help?
- Is this analysis/evaluation leading to a learning effect (i.e. adaption of structures)?
- Are failures (and the resulting learning effect) documented, communicated? How and to whom?

A criteria list driven from own DesignBuild implementations will help as guideline.

The participants will emphasise the most significant categories of failures or challenges they assume to be worth sharing or would be interested in learning from.

The results will be presented to the group.

Valuable evaluations and analyses are gathered discussed, and if possible made accessible to the group.

In a third step, concepts for an honest presentation will be set up. Case studies from the participants will help to specify. The requirements of a publication on existing databases (i.e. dbXchange and Live Projects Network) or other means to develop a culture on



discussing failures will be discussed.

The findings will be summarised.

### Schedule

- 0:00-0:10  
Introduction to the topic, presentation of the case study.
- 0:10-0:25  
Presentation of participants and discussion on questions.  
Definition (renaming) of failure and success.  
List of restraints.
- 0:25-0:40  
Working groups on criteria and evaluation.  
List of failures (challenges) worth learning from.  
Accessible best practise evaluations.
- 0:40-0:55  
A publication tool for 'Failures' for a database will be drafted.
- 0:55-0:60  
Findings.



Figure 1. Design Build project, “Stage of the music school Rodolfo Morales” after completion in 2007 (Hartig).



Figure 2. The same project four years later in 2011 (Becker).



Figure 3. The same project in 2015 (Hartig).

# Learning from Latvia.

THEODORE MOLLOY, THOMAS RANDALL PAGE.

*Oxford Brookes University.*

**KEYWORDS** Architecture, Teaching, Building, Workshop, Live-build

## Introduction

In 2011 Building Works Unit, was formed when three young and enthusiastic architects were invited to teach a unit at the Riga Technical University (RTU) International Architecture Summer School in a small town in the Latvian countryside. We quickly established a clear intention to teach through making full-size architecture. Although we have trained in architecture and architectural carpentry we are self-taught teachers, adapting the workshop each year with different projects, groups, sites and clients - building to learn, learning to build.

In our session we would like to present five lessons learned during our building workshop in Latvia that now inform both our university teaching and architectural practice.

## 1. Absurdity

Absurdity is a powerful tool, both for teaching and design. It has the power to cross cultural and linguistic barriers and to break the spell of earnest shyness and coolness prevalent in the early stages of group work. A group all laughing together is a first milestone in becoming a really good team, so we set up situations where this is unavoidable. Formulating drawing games akin to "Exquisite corpse" and narrative roleplays, we generate unexpected or frankly surreal juxtapositions of elements of programme, site, material and experience. The 'soup of ideas' generated are recorded and used as a pool in which we fish during the design process. This shared and shuffled format also breaks down unhelpful notions of individual authorship (see point 3).

## 2. Designing in Situ

As an architect we can rarely test it out at 1:1 but here we have found this is the best way of testing good

and bad ideas and working out which is which. Having a workshop on hand allows us to simply mock-up and prototype rather than draw details and components. It is easy to argue for hours about an idea or a drawing but when you mock something up to test scale and experience it, the answers become irrefutable.

## 3. The near-death of the author

The notion of star architects and sole authorship is largely a myth but is prevalent in the general public and is perpetuated through much of our education system. In Latvia, we design and construct whole projects as a group from scratch during the two weeks and students very quickly have to adjust to being part of an ecosystem of ideas. As tutors we are fully integrated as part of the team but we must also keep an overview to help manage things. We very carefully chair and mediate this process making sure good ideas don't go unheard while making sure individuals feel part of the decision-making process and have ownership of the design. We are interested in the way ideas emerge in a group, the balance of consensus and leadership.

## 4. Super Powers

Our workshop involves an intense first week of research and design and a second week of construction. Generally in the first week everyone does a bit of everything. In this maelstrom of social and design activity, individual and often surprising talents emerge. From the most unexpected places we have found translators, choreographers, large vehicle drivers, presenters and experts in pyrotechnics. Seeking out and encouraging eccentricities makes projects richer and helps each member of the group find their place.

### **5. The handover and the hangover**

The workshop is not just about us, the summer school and architecture. We build full size structures for real clients in the public realm of the town.

Engagement with the people who go on to use our structures is a key part of the value of building them in the first place. The opening celebration at the end of the workshop is something we design as part of the structure itself and is a key moment of handover. We get to show the town what we've made and why and they get to let us know if it's any good. If building is a social act, the final celebration is where this idea is tested in the most direct and rewarding way.

### **Conclusions**

The unique demands of the two-week Latvian architecture workshop have created situations and ways of working that on their own may provide some interesting anecdotes, but when taken outside of the workshop, we believe, could contain radical lessons about the way architecture happens. We are fascinated by the ways in which these lessons can be brought out of the architecture workshop and inform both our university teaching and practice. We are only beginning to explore this but have many ideas about how it could be taken further. In our session we hope to present and discuss some of these opportunities.









