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Pedagogy + Policy

Rochdale Reimagined

Sally Stone and Laura Sanderson

This chapter discusses an emerging pedagogic approach within architectural education that provides a mechanism to apply the Design Thinking of the School of Architecture to the "Wicked Problems" of local planning. These societal problems, which Rittel + Webber would explain as being "never solved, but at best are only re-solved – over and over again" (1973), are perfect vehicles for the Problem-Based Learning projects that are becoming more prevelent within architectural education. At the foreground of this discussion is a funded project conducted by Continuity in Architecture, a postgraduate atelier for teaching, research, and practice at the Manchester School of Architecture, in the Heritage Action Zone of Rochdale, a post-industrial town to the north of Manchester. The chapter discusses the application of an outward-facing form of Problem-Based Learning where the atelier deliberately set open-ended "problems" rather than specific projects. This methodology is applied to gaps in the planning system which have arisen from the 2011 UK Localism Act. The project draws upon 25 years of research-informed teaching already conducted by the atelier, and focuses on the problem of the redevelopment of this disadvantaged environment, with special attention to the Historic High Street.

Introduction

This chapter discusses an emerging pedagogic approach within architectural education that provides a mechanism to apply the Design Thinking of the School of Architecture to the "Wicked Problems" of local planning. "Wicked Problems" are complex, confusing, and contradictory, and as such are "… distinguished from problems in the natural sciences, which are definable and separable and may have solutions that are findable, the problems of governmental planning – and especially those of social or policy planning – are ill-defined; and they rely upon elusive political judgement for resolution. (Not 'solution.' Societal problems are never solved. At best they are only re-solved – over and over again.)"[1] Through the analysis of a series of projects undertaken by Continuity in Architecture – a postgraduate atelier for research, practice, and teaching at the Manchester School of Architecture, this chapter will examine the particular kind of research-through-design that occurs within the architecture "studio" and how an outward-facing form of Problem-Based Learning[2] can map this thinking onto the planning problems that have arisen through the 2011 UK Localism Act.[3]

Continuity in Architecture deliberately set open-ended "problems" rather than specific projects, and as such have been researching the application of this Problem-Based Learning to local "gaps" within the defined planning policy. The atelier uses this pedagogical approach as a departure from more usual "Live" projects. They have been working directly with the local communities of towns surrounding the city to develop meaningful and productive proposals for the development of the built environment.

The foreground of this chapter is a funded project conducted by the Continuity in Architecture atelier in the Heritage Action Zone of a post-industrial town to the north of Manchester, Rochdale. The project drew upon 25 years of research-informed teaching already conducted by the atelier, and focused on the problem of the redevelopment of this disadvantaged environment, with special attention to the Historic High Street. This was in collaboration with the Local Council and Rochdale Development Agency. Given that Rochdale is the birthplace of the Co-operative Movement, these collaborative projects seem particularly apposite.

The students' problem-based project proposals and other findings have been presented to the council, they have also been exhibited to the local population in the central library, featured in the local press,

and the analysis published as design guides. This has generated new and useful ideas about place that have directly influenced future policies for development within the town. Thus, the collection of student proposals generated new and useful ideas about place, encouraged the community to cherish what is loved and local through an approach that is appropriately cooperative, and importantly directly influenced the future policies for the development of the town, meaning that the insights presented in this chapter are useful to audiences beyond academia.

This chapter is split into four parts. The first section discusses the broader pedagogy of the project and its position as an outward-facing form of Problem-Based Learning. The second section introduces the embedded nature of the collaborative approach within the context of the 2019/2020 atelier projects in Rochdale. The third section explores how collaboration is embedded into the projects with particular emphasis upon Localism and Local Planning. And the final concluding section shows how these "research-through-design" projects have led directly to significant developments in the public planning of local places. It also discusses the ongoing work conducted by Continuity in Architecture, with special emphasis upon how place-based learning can be conducted digitally in a time of pandemic.

Outward-facing problem-based learning

Research-through-design

Research-through-design is an activity signified by the gathering of insights about an object of research; the aim of this process is the collection of knowledge. This knowledge is then analysed and appropriated through the actual design process. Thus, knowledge is gained through the analytical process of design rather than the pure collection of facts. This activity is a mixture of peer-to-peer conversations, interactive discussions, and shared experiences combined with continual reiteration of the process of designing itself; that is, answering the design question and producing an architectural proposal. As part of learning process, the practice of design, a fundamental part of the architectural culture, becomes the first and most significant area of investigation. Its informal structure and the lack of parameters based on the relationship between performance and results means that the creative process is prioritised over the quality of the final product.[4]

The EAAE Charter on Architectural Research describes research-through-design as a method that transforms particular design solutions into "objects of reflection" and frames them within the wider context in order to generate more than just anecdotal claims based upon a particular project.[5] Since design and research are inextricably linked, there is a direct relationship between knowledge production and the design process. Thus, the aim of a research-through-design project within a school of architecture is to construct knowledge through the acquisition of insight and understanding.

In his seminal publication, "Wicked Problems in Design Thinking," Richard Buchanan explains that "despite efforts to discover the foundations of design thinking in the fine arts, the natural sciences, or most recently, the social sciences, design eludes reduction and remains a surprisingly flexible activity."[6] He defines design (which of course includes the design of architecture and adaptation) as a "new liberal art of technological culture,"[7] and goes on to discuss a type of "thinking that can be shared to some degree by all men and women in their daily lives."[8]

Design and scientific problem solving are vastly different; scientific understanding generally leads to a logical and concrete solution, while more artistically orientated problem solving can generally be compared with the deciphering of a riddle.[9] Within all research, but especially research-through-design, there is a fundamental difference between understanding and examining. Understanding is based upon a comparison while examining requires a penetration of the object, which is more profound. Design is not a linear process; it is a cyclical practice that continually evolves, using

informed research to make design decisions that in turn create the need for further investigation; "… like all systematic educational and instructional design processes – cyclical in character: analysis, design, evaluation and revision activities are iterated until an appropriate balance between ideals ('the intended') and realisation has been achieved."[10]

Problem-Based Learning

The "research-through-design" approach has a direct correlation with the pedagogies of Problem-Based Learning. This is a pedagogy that was developed in mid-1980s for the teaching medical students[11] and should not be confused with the notion of "problem solving." Within Problem-Based Learning, it is the "discussion around the problem that is the valuable learning experience, rather than solving the problem itself."[12]

Problem-Based Learning is consistent with the principles of a "constructivist" approach to teaching developed by Vygotsky (1962), Bruner (1966), Bandura (1977), and Lave (1990). Duffy and Savery describe constructivism as "a philosophical view on how we come to understand or know,"[13] they suggest that this creates a set of instructional principles that can guide the practice of teaching and the design within the learning environment. They argue that the constructivist view contains three propositions:

1. Understanding is based upon the interaction with the environment, that is, what is learned cannot be separated from how it is learned and the context within which this happens.
2. The stimulus for learning determines the organisation and nature of what is learned, so the question that is set or the goal of a project stimulates puzzlement within the student.

   and thus:

3. Knowledge evolves through a negotiation of the social environment of the learner combined with an evaluation of that individual's ability to understand.[14]

Applied to the architectural studio, these methods require students to acquire the knowledge that they need at that moment they need it to solve the problem at hand. The practice of combining this with a research-through-design methodology encourages the students as individuals to find out what they need to know within the benevolent environment of the atelier. To a certain extent, the architectural teaching practice of the "design studio" is naturally problem-based, however, research into the application of Problem-Based Learning to architectural education has tended to focus on "non-studio," lecture-based modules like technology and humanities as noted by Banerjee and De Graff,[15] Bridges,[16] and Roberts.[17]

Wicked problems

"Wicked Problems" are loosely defined by briefs and mandates (most commonly those of social interest) that are "ill formulated, where the information is confusing, where there are many clients and decision makers with conflicting values, and where the ramifications in the whole system are thoroughly confusing."[18] Formulated in the 1960s by Horst Rittel as a response to trends that defined the design process as a step-by-step model, "Wicked Problems" are problems that can be resolved but cannot be solved, "at best they are re-solved, over and over again."[19]

It could be argued that all design problems are to a certain extent "Wicked," although the term is most commonly used with those that are complicated by layers of social complexity. Buchanan in his seminar text "Wicked Problems in Design Thinking" concluded that "… design problems are 'indeterminate' and 'Wicked' because design has no special subject matter of its own apart from what a designer conceives it to be … this sharply contrasts with the disciplines of science, which are concerned with understanding the principles, laws, rules, or structures that are necessarily embodied in existing subject matters."[20] These problems seek an equally complex and often multidimensional approach that many professionals do not have the time or resource to effectively deal with in practice, even as part of multi (or even trans) disciplinary teams.

Continuity in Architecture has been concerned with a specific "Wicked Problem" since its inception at Manchester School of Architecture in the 1990s; the challenge of the huge stock of existing buildings and complex "constructed sites"[21] that have outlived the function for which they were built. Their worth is well recognised and the importance of retaining them has been long debated, but if they are to be saved, what is to be done with them?[22]

This idea is discussed by the RIBA Gold Medal-winning architect John Tuomey, who said that "when we say that we think of a building as a permanent thing, that is not to say it must stand intact forever or that it cannot be changed"[23] he then invokes Seamus Heaney, who "has described one function of memory as a kind of disassembly and remaking of the past in which parts of our history are dismembered in order to be remembered in a way which is useful to our present."[24] Creating a place-specific, appropriate, and sustainable future for our towns and cities is a complex problem, which is most pressing in places where residents are keen to maintain the "status quo," a standpoint that architect Elizabeth Timme argues, "makes them vulnerable to developers hawking images of 'contextualism.'"[25]

Rochdale Reimagined

Continuity in Architecture (est. 1993) is a postgraduate atelier for research, practice, and teaching at the Manchester School of Architecture for the design of new buildings and public spaces within the historic city and interventions within existing structures. The atelier aligns itself with the varied contemporary practitioners who discuss the synthesis of situation as the basis for new interventions into existing buildings and "constructed sites."[26] Continuity in Architecture is inspired by a collection of texts that arose in the early Post-Modern period as a response to rigid principles of modernism; these include Thomas Schumacher's "Contextualism, Urban Ideals and Deformations"[27] and Colin Rowe and Fred Koetter's "Collage City."[28] Plus the seminal writing of Jorge Silvetti, who towards the end of the 20th century described the importance of the evidence of the already built: "At the risk of sounding too partisan and biased, I would say that even in historic times documents are not always available, and buildings (monuments, vernacular constructions and public works) are themselves important texts, often providing the first and most lasting impression of a culture. I believe the study of cities can be approached successfully through a minimal model of two interactive physicalities – public infrastructure and monuments – and that the quality of this interaction indicates in great measure the city's level of civic achievement."[29]

In recent years, Continuity in Architecture has worked on the application of these principles in collaboration with local communities, especially those surrounding the city of Manchester. In the teaching studio, the atelier operates with a problem-based approach where students are set an open-ended design problem to create an explicit relationship with environment, circumstances, and history, through the design of architecture. The "programme" of the space is not defined and the students are expected to generate a proposal through their understanding of the needs of the place. This is a departure from the idea of a "Live" project as the students are not expected to simulate practice or find a "solution" but instead to create new contextual findings through their own "Design

Thinking." This unique pedagogic approach uses a series of "Wicked Problems" faced by real collaborators with respect to the existing built fabric of their towns.

These problems give a richness to the architectural curriculum, which would not be possible with the more "traditional" brief. The methodology has been developed over a number of years working closely with live collaborators in the form of Local Authorities and Local Community Interest Groups, with each iteration of the approach rigorously tested at peer-reviewed conferences. Over the years, it has become easier to find collaborators willing to be surprised by the answer that a site might generate, and able to understand that there is more value in the "Design Thinking" than in the actual design proposal. In recent years, the "Wicked Problems" explored by the atelier have included: Seasonality in Cartmel, Housing in Bakewell and over the past three years, the Future of the Historic High Street in Rochdale (2018–2019), the Shrewsbury (2019–2020), and Bradford (2020–2021).

Figure 5.1 Vernacular Analysis of Rochdale, Luke Anderson and Jake Vogtlander, Continuity in Architecture, 2019.

In the 2018–2019 academic year, Continuity in Architecture applied their particular approach to the town of Rochdale; a project called Rochdale Reimagined. The Local Council used their Historic England empowered, Heritage Action Zone grant to fund these problem-based, research-through-design projects. This covered the expenses implicit in travel, exhibition, publication, and knowledge acquisition. The unique application of the problem-based approach was significant in Rochdale and provided insights for both architectural pedagogy and for the town. The learning objectives of the master's course were different from the objectives that might have been set in a traditional client brief – either to an appointed architect or in an educational "Live" project designed to simulate practice. This allowed the students to explore the problem more completely. The "Design Thinking" applied to the problem of the Historic High Street in Rochdale led to a significant exhibition and published catalogue, synthesised and published contextual findings and invitations to do further consultation work in the Borough.

The context of Rochdale, a town on the north-eastern edge of Manchester, is a perfect vehicle for a "Wicked Problem" studio. It is a modern town; that is, it is a place born from the industrial revolution. Rather than evolving naturally over thousands of years, it is a settlement demanded by the needs of manufacturing – and thus, it contains a determined optimism. The town was initially built upon the wool trade, however, cotton arrived at the very end of the 18th century and quickly overtook the wool in importance. Nevertheless, because wool was never fully abandoned, part of Rochdale's industrial strength lay in its ability to switch back to wool when the need arose. Notwithstanding all of this, more than with the great machines of production, Rochdale is known for its egalitarian position, for it is the founding place of the Co-operative Movement. This was grown from harsh necessity, from the need of the local people to feed and clothe themselves in this tough climate.

The town has suffered heavily from post-industrial decline in the second half of the 20th century, combined with a more recent economic downturn, but the council and the people are, as ever, optimistic. The long-culverted river has been uncovered; this provides a crucial moment within the centre of the town upon which other developments can relate to. The new shopping centre is almost complete and the outdoor market has been moved to the banks of the River Roch, thus the town is beginning to be invested with a vibrancy; something that has been missing for so long. However, Drake Street, the historic main shopping route within the town, is still suffering from neglect. It is one of the main gateways into the centre, supports the metro line, and links the river with the railway station. This distinct area has been awarded Heritage Action Zone status by Historic England, who identified a series of sites for targeted regeneration projects to help bring heritage assets back into

use to create economic growth. “Historic buildings which have deteriorated through decades of neglect will be restored and put back into use, and unsung places will be recognised and celebrated for their unique character and heritage, helping to instil a sense of local pride.”[30]

The future of the UK “High Street” was a question dominating many arenas of British research, even before the COVID-19 pandemic. Two notable reports were published in December 2018 – the “High Street Report,”[31] and the Institute of Place Managements “High Street 2030: Achieving Change,”[32] as well as major funding opportunities including the Ministry of Housing, Communities and Government’s 2019 “Future High Streets Fund.” Out-of-town shopping centres have contributed towards the decline of the High Street, but this is compounded by the internet. Shopping is now something that can be done out of hours, at home, often while doing something else. So town centres have to rethink how they are to attract customers, how to encourage visitors to spend money and therefore support the local economy, after all, the shopping areas will not be sustained on interactions that are completely personal; that is, “Coffee Shops and Hairdressers.” This leads to the realisation that “Encounter and Exchange” will make a massive contribution to the future of the High Street. Visitors need something more than just shopping to attract them into any town centre. There is a need for other activities, for something more to entertain the shoppers. In Rochdale, the Heritage Action Zone status and associated funding will allow the council to develop proposals for truly forward-thinking ways for the development of the town and it is upon this that the collaboration with Continuity in Architecture was founded.

The atelier approach is based upon the synthesis of situation. A strategy that establishes an explicit relationship with environment, circumstances, and history, not just with the building site and its immediate surroundings, but also with the climate, topography, geology, culture, the society that initially used the place and also those that will, in the future, occupy it. The reading of the situation can uncover a layered and stratified narrative, and the understanding of these inherent qualities and conditions can provide clues to the design of new structures. It is through a thorough knowledge and understanding of the existing condition that the architect or designer can uncover the meaning within a place, and this knowledge can be used to activate, liberate, and instigate a new future for any given situation.

Figure 5.2 Rochdale Bathhouse, Courtney Ives and Yiting Zhou, Continuity in Architecture, 2019.

Based upon an analysis of the found material, the students are asked to change the situation in some way. This research-through-design mini project is based upon the attributes, qualities, and character that they uncover; as the students make informed design decisions, they also make discoveries about the place. Typically, a programme may ask the student to concentrate upon a specific site, and design the relationship between the three-dimensional nature of the interior, the building, the streets, and the town. They are not yet to design a functioning building, but instead to discuss the qualities of how something can fit into the existing building or the urban pattern and become part of the built environment. They will attempt to understand the relationship between a specific place, itself and its’ surroundings, to investigate in minute detail the distinct qualities of a specific place. This actually reverses the more normal form follows function argument, it turns it upon its head, for now, the form of the new elements is dependent upon the form of the existing, so it is not form follows function, but form follows form. This process reveals the true character of the place, it shows how the found qualities have stimulated something new, something that in a way for the moment, completes the place. The RIBA Gold Medal-winning architect Shelia O’Donnell refers to this process as: “Applying a twenty-first century layer of archaeology.”[33]

As the design develops, then the true function of the project will reveal itself; the actual programme will be generated through the understanding of the needs of the place. Students are encouraged to continue beyond the development of simple forms, to develop proposals for detail, ornamentation

and weathering, and to show how the proposals would age in their context over time. This approach to site is qualified by Bryony Roberts' discussion of "Tabula Plena," the interpretation of which can be stretched to describe a board game or a table after a dinner party – "with the complex arrangements of plates, glasses and silverware positioned by a series of social negotiations."[34]

The project in Rochdale can be followed through the design proposals developed by a pair of students who worked very closely together Courtney Ives and Yiting Zhou (Figure 5.2). They began the academic year by examining a vacant site on the edge of the Heritage Action Zone. This small and fast-paced project was a precursor to the thesis project; it was something that immediately immersed the students in the character and nature of the town. The two students explored figure ground as a methodology to create ideal forms, which were then translated into urban artefacts, thus reinstating the site's former use as a public amenity space. This new-found knowledge then formed the basis of a larger more ambitious project that explored the inter-relationship of a series of objects. The students, who were working with a collection of existing buildings and spaces, collaged together a number of local forms to create a new roofscape that echoed the industrial past of the site. They used such precedents as the still life paintings of the artist Morandi, the theories of Roma Interrotta, and the buildings of John Outram, to create a bathhouse on the bank of the River Roch.

Embedded collaboration

Over the last decade, Continuity in Architecture has been developing a particular approach to public engagement. This is a direct reaction to a significant legislative initiative: the Localism Act, which was introduced by the British Coalition Government in 2011 and subsequently became law. Part 6 of this Act of Parliament devolved certain planning decisions to the settlement itself; such that the local residents had the ability to directly shape their own environment. So, for example, potential development sites for new housing could be identified and the capacity for that development fixed. Louise Brooke-Smith, RISC President 2014–2015, stated that "the art of involvement and community liaison is the bedrock of today's planning system and when it works well, it reflects the very best in terms of inclusivity. When managed poorly or not given the respect it deserves, it can result in poor decision making and at worst, some very dodgy development coming forward."[35]

The research cluster embedded within Continuity in Architecture began research in this area through engagement with the Neighbourhood Planning Committees of three small towns in the north of England: Bollington (2016), Bakewell (2017), and Wilmslow (2018). A number of "gaps" in the bottom-up planning system were identified. The first "gap" noted was the "skills gap" in the groups – volunteer organisations lacked design capability and strategic design knowledge to present a clear, illustrated vision for the future of the settlement. Second, and perhaps more fundamentally, there was also a notable "scope gap" in the kind of activities within the remit of the Neighbourhood Planning process, thus a lack of "joined-up thinking." In a recent review of Neighbourhood Planning, Nicholas Boys Smith, the Director of "Create Streets" quoted a senior planning inspector who expressed his frustration at the process: "Half of them are barely worth writing. They just parrot the local authority's plans."[36] Boys Smith goes on to ask: "How can we make for more effective plans? Some of the answer lies at the local level. The most powerful and effective neighbourhood plans have a very strong sense of place, of what will get built and where. The two most powerful, yet insufficiently used, tools in the Neighbourhood Planning armoury are allocating sites for development and setting out a clear and predictable Design Code for what that development should be and look like."[37]

Continuity in Architecture worked collaboratively with these places to develop new small-town architecture. It was noted that these types of settlements have specific qualities and problems, which are quite different to those of larger conurbations such as cities or large towns. They are places that are desirable, yet strangely overlooked, bypassed, and generally unconsidered; they are too small to

be called urban, but too large to be considered as rural. This neglect means that they are often open to architectural abuse. The character and nature of the settlement are sometimes not well considered when redevelopment occurs. Often the charm of the area, something that has attracted people into the place to begin with, is lost with redevelopment; thus, undermining the very existence of the settlement itself. Working closely with the Neighbourhood Planning Committees and through a series of local exhibitions, the atelier worked on designs to grow and improve the places, but importantly, without losing the intrinsic character of the area. These initial projects led the atelier to develop a successful methodology for interacting with public and voluntary bodies.

In Rochdale, rather than a Neighbourhood Planning Committee, the atelier was appointed by the Heritage Action Zone Team (a diverse group who bring their varied project management, arts, culture, conservation, and regeneration experience together in order to influence change in the town centre area), who were keen to understand the position and priorities of the area. The student project was initiated by the Heritage Action Zone Team to explore proposals for a collection of existing buildings around Drake Street, the Historic High Street. Similar to the remit of the Neighbourhood Planning Committee, this task fell outside of the scope of their project and was arguably not specific enough to be able to appoint an architect or urban designer. Students were tasked with the problem of what to do with the existing High Street and looked at a series of existing buildings and complicated sites from the railway station to the town centre.

The architect has certain skills; they understand the built environment, they can read its character, comprehend its grain, and appreciate the inconsistencies. They also have the ability to envisage alternative futures and this ability allows them to suggest different solutions to the ones currently being pursued. Architecture is formed in the imagination and architects have effective techniques for developing and visualising distinctive potentials. Thus, the architecture students were able to develop and depict ideas that maybe other professionals were not in the position to. They can design buildings, propose conversions, and suggest uses that are beyond the project scope and possibly haven't been thought of, and they can communicate these ideas through drawings, models, and sketches, all of which provides the town with liberating ideas, which that can form the basis of much larger discussions. Importantly, these student projects do not replicate nor undermine the work of professional architects, but instead compliment it.

As well as collaborating with local planning teams, the atelier also encourages cross-discipline dialogue. The students worked with academics from different disciplines; including English, Ceramics, and Geography, and relationships were also established with poets, who interpreted the place in a similar manner with vastly differing results (verbal rather than visual). There was an awareness of particular craft-making processes; this practice goes beyond the studio and into the factory, the atelier forged relationship with a terracotta works, a cast-iron foundry, and a joinery workshop. One project by Keqin He used this new knowledge about terracotta to research and interpret the Art Deco details of the Champness Hall, located on the Historic High Street. The project proposed a series of new interventions to improve the circulation of the building and a sequence of spaces for new uses, while also considering construction process and the artistic interpretation of the terracotta details of the existing building.

Figure 5.3 Champness Hall, Keqin He, Continuity in Architecture, 2019.

All of the collaborative projects have been disseminated to the local population, key stakeholders, and relevant professionals. Exhibitions, with catalogues, were installed in the local context for both the Neighbourhood Planning (2014–2018) and the Historic High Street (2018–2021) partnerships. For the project in Rochdale, 50 projects were displayed for two months in the town's Central Library, with prompted questions on postcards used as a way of completing the feedback loop.

The evolution of the research cluster within the Continuity in Architecture atelier has also allowed projects to develop beyond the confines of the academic year and the architectural curriculum. Bollington Town Council commissioned a comprehensive study (with proposals) for the development of its 3 km central road. Continuity in Architecture partnered with local architects, Arca, and other consultant Civic Engineers to produce the report "Reclaiming the Road" (March 2017). This document was then incorporated as a Supplementary Document to the Neighbourhood Plan, also called "Reclaiming the Road," which has been taken forward for consultation and funding proposals. The idea is to reclaim that which has been lost to the transport infrastructure and highways planning and regulatory systems for the good of the local community, the report led to a further project, outside of the curriculum in a small village in Cheshire. The atelier has also collaborated with Roberts Stone Studio to develop small-town proposals for a collection of villages in Cornwall, Oxford, and the Lake District. These proposals are to be implemented, thus the methodology embedded within the atelier has developed beyond the theoretical to the practical advancement of particular places outside of the studio curriculum. Consultancy work with other Neighbourhood Planning Committees has also been undertaken.

Smaller but still significant events have included a series of interventions, including using mirrors to redirect attention to local landmarks (2015), making kites based upon the drawings of local school children who were asked to illustrate what they liked about their town (2016), and the atelier worked with local residents to celebrate local materials in the manufacture of a cast golden stone (2016). In Rochdale, the work completed in the atelier led to further innovative collaborations, including the Heritage Schools Project (2019), which explored the "Design Thinking" of local school children; invitations by the Local Authority to judge the Rochdale Borough Design Awards (2019); and an invitation to collaborate with a national urban planning practice on a project to redevelop land around the Borough's five Railway Stations (to create 7,000 homes, extensive commercial space, and an £11m cycle corridor (2020)). Each of these satellite projects is another form of place-based participation, engaging a wider audience in the ongoing redevelopment of small towns and villages in the north of England.

Conclusion

Through the examination of a specific project by the Continuity in Architecture atelier, this research has gained significant new insights into an emergent pedagogy for "Wicked Problems." This is contextualised in key literature on "Design Thinking," Problem-Based Learning, and research-through-design. At the beginning of this chapter, the idea that "Wicked Problems" needed to be "re-solved – over and over again"[38] was discussed, this is reinforced by Victor Margolin, who suggests that: "Design is continuously inventing its subject matter, so it is not limited by outworn categories of products. The world expects new things from designers. That is the nature of design."[39]

It was noted that "Wicked Problems" (broadly) and the search for solutions for the "already built" (specifically) were entirely appropriate vehicles for educating architects; theoretically rich enough to meet the academic objectives of the course, yet practical enough to meet the requirements of the profession. Projects in architectural education with a tangible output have been catalogued as "Live" projects for the last few decades, however, a "Live" project does not necessarily operate with a problem-based pedagogy. By simulating "practice," they seek to find an answer, a product, a building: that is a realisable entity. However, as stated perfectly by Mimi Zeiger, "with the power of 'both/and' – that is, Live Projects embrace the best of design speculation, sociological strategies, and construction techniques – comes the spectre of 'neither/nor' – that these projects are compromised by their lack of trajectory within an avant-gardist pursuit."[40]

Through the alignment of the "Design Thinking" that takes place in the atelier with the problems of real collaborators, it is possible to find solutions that might not otherwise have been imagined. By

setting a "problem" where the outcome is not altogether tangible, rather than a "project" where the client has specified requirements, this research has highlighted a new line of thinking. The students benefit from the real implications of their work while not being limited by the need to find the "right answer," which aligns intrinsically with Problem-Based Learning. Projects have moved fluidly between academic research tasks, consultancy activity, teaching programmes, and back again – all the while forging links to the community themselves, who actively give and receive knowledge about how their settlement might evolve in future.

The understanding and then adaptation of the conditions of the site can be condensed into an easily remembered saying: Remember, Reveal, Construct. This motto has been developed by the atelier to aid the student while in education and also throughout their professional career. *Remember* the characteristics of the site, look closely at the attributes, explore the nature of what is there, examine the place, and find out what it is saying. *Reveal* the situation, analyse the findings of the investigation, and discover what it means. Use these to exploit the very qualities of the situation. *Construct* new elements that are appropriate to the situation, that heighten the experience of what is there, that become part of the continual evolution of the place.

This Remember, Reveal, Construct methodology[41] is a natural fit to the problems being experienced by the lack of scope in UK planning tasks. The project has evolved again since the atelier examined Rochdale in the 2018–2019 academic year, most notably by the COVID-19 pandemic, which has added new complexities to the future demands of local High Streets and Town Centres, and also created new platforms for interaction demanded by the necessity of social distancing.

In the 2019–2020 academic year, the atelier continued to consider the problem of the High Street, but this time in collaboration with Shrewsbury, a much more affluent area to the south of Manchester somewhat confusingly governed by both Shrewsbury Town Council and Shropshire Council. The joint council had already produced the Shrewsbury Big Town Plan, a proposal for how to develop the area, and the "testing" of this was the basis of the Continuity in Architecture projects for the academic year. This of course uncovered many different complexities but also a huge number of similar problems to the much more financially challenged town of Rochdale. This was a vertical project in that it engaged three different student cohorts, combining final year undergraduates, with the two years of the master's programme. This allowed the theoretical studies, visiting speakers, and basic research elements to be truly collaborative, while the individual students were able to pursue their own projects within the confines of the programme.

The COVID-19 pandemic arrived just over halfway through the project and all teaching was immediately moved online. This could have been problematic for such a place-focused project, however, the timing was such that most of the empirical research had already been conducted, the students had visited the town on a number of occasions, had spoken with the councillors, local residents, and professionals, sketched and mapped the town, and had taken innumerable photographs for use during the national lockdown.

Generating a completely online place-focused project for the next academic year was certainly a much greater challenge and in the summer of 2020, the atelier was invited to look at the "Top of Town" area of Bradford, a post-industrial city in the North of England. The direct invitation was from the Bradford Civic Society and Bradford Townscape Heritage Scheme (Bradford Council) and was funded by the Architectural Heritage Fund. The Civic Society and the Council were aware of the work produced by the atelier and felt that they would benefit from the sort of consultation that Continuity in Architecture could offer.

The 'Future of the High Street' was, even before the pandemic, a problem that desperately needed addressing, but enforced lockdown combined with online shopping is hastening its demise. These

areas will not be sustained on interactions that are completely personal; that is, "Coffee Shops and Hairdressers," however, this sense of personal interaction that cannot be acquired through digital communication could be the basis of it – and so Continuity in Architecture have called this project: *Encounter and Exchange*.

COVID-19 has generated more "Wicked Problems" for investigation, such as: what is going to happen in the city centre? Who will be operating on the high street and how will their working methods be affected? How are city centre housing needs changed by home working? And what buildings will become redundant as a result of the pandemic and how can they be repurposed?

Teaching place-based projects online has necessarily meant using digital interfaces that allow for individual tutorials and group discussion. Students are scattered across the world, and as such, drawings, maps, diagrams, sketches, and precedent studies have to be generated across oceans. But we have got into the rhythm of it. Tutorials and seminars do take longer, but also there are many more opportunities to understand the individual context and climate that each student is from. The processes of remote working have increased the possible interactions between the atelier and a wider group of stakeholders, who have attended online tutorials, tours, and talks, something that demands further research when planning future (even located) projects post-pandemic. Collaborators from Bradford Civic Society and Bradford Townscape Heritage Scheme have given the students virtual tours of area while lecturers have provided virtual international study tours online. And of course, the atelier has received international visitors and critics from the luxury of their own living room, something that would have been prohibitively expensive to be done physically. Students have exploited digital maps and picture stores to generate visuals and without access to the well-stocked university workshop, they are creatively using materials at hand to make models, including a collaborative flat-pack model that has been printed and put together all over the world. It was inevitable that many aspects of education would have evolved to be conducted online, but this may have taken 30 years rather than 30 days. Let us hope that when this is over, we will retain all the parts that have worked well and really enjoy the return to located studio-based interaction.

The work by the Continuity in Architecture atelier has presented a cyclical research-through-design process that presents significant steps forward in finding a future for the "already built" through place-specific collaborations. Reflecting upon the nature of these collaborative interactions, it is pertinent to once again reference the opening quote; "societal problems are never solved, at best they are only re-solved – over and over again."[42]

Acknowledgements

This chapter would have not been possible without the collaborators that we have worked with along the way: Bollington Neighbourhood Planning Committee, Bakewell Neighbourhood Planning Committee, Wilmslow Neighbourhood Planning Committee, Rochdale Development Agency, Rochdale Heritage Action Zone Team, Shrewsbury Town Council, Shropshire Council, Shrewsbury Big Town Plan, Bradford Civic Society, and Bradford Townscape Heritage Scheme. The students we have worked with make our work on these projects an absolute joy and their talent and creative thinking is certainly something worth shouting about. Our atelier staff, John Lee, Dominic Roberts, Tim Groom, Alberto Velazquez, Gary Colleran, Mike Daniels, Adam Gray, Claudio Molina Camacho and Johnathan Djabarouti who have given their time and expertise to guide the students with such care. Finally, Professor Graham Cairns and the team at Architecture Media Politics Society who have provided us with the opportunity to present these findings along the way in their conferences in Liverpool (2016), Derby (2017), New York (2019), and Manchester (2020), providing vital feedback to develop our research further.

Notes

[1] Rittel, HWJ. & Webber, MM. *Planning Problems Are Wicked Problems*, in 'Dilemmas in a General Theory of Planning, Policy Sciences 4', 1973, 156.
[2] Barrows, HS. *How to Design a Problem-Based Curriculum for the Preclinical Years*. Springer Publishing Co, 1985.
[3] https://www.legislation.gov.uk/ukpga/2011/20/contents/enacted [last accessed January 2021].
[4] EAAE Charter on Architectural Research at http://www.eaae.be/about/statutes-and-charter/eaae-charter-architectural-research/ 2012 [last accessed January 2021], 2012, 148.
[5] Ibid, 19.
[6] Buchanan, R. *Wicked Problems in Design Thinking*, in 'Design Issues, Vol. 8, No. 2', 1992, 5.
[7] Ibid, 5.
[8] Ibid, 8.
[9] Schurk, H. *The Role of Theory, or What Kind of Knowledge Does Design Contain?* in 'Theory by Design, Research Made Explicit in the Design Teaching Studio', 2012, 73.
[10] Plomp, T. *Educational Design Research: An Introduction*, in 'Netherlands Institute for Curriculum Development', 2013, 17.
[11] Barrows, HS. *How to Design a Problem-Based Curriculum for the Preclinical Years*. Springer Publishing Co, 1985.
[12] Roberts, A. *Problem-Based Learning in Architecture*, in 'CEBE Briefing Guide Series, No. 11', 2007, 1.
[13] Duffy, TM. & Savery, JR. *Problem-Based Learning: An Instructional Model and Its Constructivist Framework.* Published in Wilson, B. [ed.]. Constructivist Learning Environments: Case Studies in Instructional Design. Educational Technology Publications, 1996, 31.
[14] Ibid.
[15] Banerjee, HK. & De Graff, E. *Problem-Based Learning in Architecture: Problems of Integration of Technical Disciplines*, in 'European Journal of Engineering Education, Vol. 21, No. 2', 1996.
[16] Bridges, A. *A Critical Review of Problem-Based Learning in Architectural Education.* eCAADe 24 – Session 5: Digital Design Education, 2006.
[17] Roberts, A. *Problem-Based Learning in Architecture*, in 'CEBE Briefing Guide Series, No. 11', 2007.
[18] Buchanan, R. *Wicked Problems in Design Thinking*, in 'Design Issues, Vol. 8, No. 2', 1992, 15.
[19] Rittel, HWJ. & Webber, MM. *Planning Problems Are Wicked Problems*, in 'Dilemmas in a General Theory of Planning, Policy Sciences 4', 1973, 156.
[20] Buchanan, R. *Wicked Problems in Design Thinking*, in 'Design Issues, Vol. 8, No. 2', 1992, 15.
[21] Burns, CJ. *On Site: Architectural Preoccupations.* Published in Kahn, A. [ed.]. Drawing, Building, Text: Essays in Architectural Theory, Princeton Architectural Press, 1991.
[22] Stone, S. *UnDoing Buildings: Adaptive Reuse and Cultural Memory.* Routledge, 2019.
[23] Tuomey, J. *Architecture, Craft and Culture.* Gandon Editions, 2004, 27.
[24] Ibid.
[25] Timme, E. *Community.* Published in Roberts, B. [ed.]. Tabula Plena: Forms of Urban Preservation, 2016, 47.
[26] Burns, CJ. *On Site: Architectural Preoccupations.* Published in Kahn, A. [ed.], Drawing, Building, Text: Essays in Architectural Theory. Princeton Architectural Press, 1991.
[27] Schumacher, T. *Contextualism: Urban Ideals and Deformations*. Published in Casabella no. 359–360, pp. 79–86, 1971.
[28] Koetter, F & Rowe, C. Collage City. MIT Press, 1978.
[29] Silvetti, J. Interactive Realms, 1992.
[30] Kurik, KL. *Rochdale Heritage Action Zone Project Statement*, in 'Rochdale Reimagined', 2019, 4.
[31] https://www.gov.uk/government/publications/the-high-street-report [last accessed January 2021].
[32] https://www.gov.uk/government/publications/the-high-street-report [last accessed January 2021].
[33] Brooker, G & Stone, S. *Irish Film Centre Case Study*, in 'Re-readings: Interior Architecture and the Design Principles of Remodelling Existing Buildings', 2004, 239.
[34] Roberts, B. *Tabula Plena*. Published in Roberts, B. [ed.]. Tabula Plena: Forms of Urban Preservation, 2016, 10.
[35] Brooke-Smith, L. *Foreword*. Published in Norton, P. [ed.]. Public Consultation and Community Involvement in Planning, 2018, 0.
[36] Boys Smith, N. *Is Neighbourhood Planning Flourishing or Withering? And How Can Communities Do It Better?* Online at https://www.conservativehome.com/localgovernment/2016/08/nicholas-boys-smith-is-neighbourhood-planning-flourishing-or-withering-and-how-can-communities-do-it-better.html [last accessed July 2020], 2016.
[37] Ibid.
[38] Rittel, HWJ. & Webber, MM. *Planning Problems Are Wicked Problems*, in 'Dilemmas in a General Theory of Planning, Policy Sciences 4', 1973, 156.
[39] Margolin, V. The Politics of the Artificial: Essays on Design and Design Studies. University of Chicago Press, 2002, 88.
[40] Zeiger, M. *Preface*. Published in Harriss, H. & Widder, L. [eds.]. Architecture Live Projects: Pedagogy into Practice, Routledge, 2014, xxv.
[41] This approach is the subject of an upcoming book *Remember, Reveal, Construct: Reflections upon the Contingency, Usefulness and Emotional Resonance of Architecture, Buildings and Context* by Sally Stone and Laura Sanderson, which

brings together key essays (including Schumacher, Rowe & Koetter, Boyer, and Cullen), building case studies (including Munster City Library, Universitia Luigi Bocconi, SESC Pompéia, and the Red House), transcribed conversations (including An Fonteyne, Mark Pimlott, Flores & Prats Arquitectes, and MAP Studio), and academics (including Bie Plevoets (Hasselt), Markus Berger (Rhode Island), and Bryony Roberts (Columbia)), Routledge, 2022.

[42] Rittel, HWJ. & Webber, MM. *Planning Problems Are Wicked Problems*, in 'Dilemmas in a General Theory of Planning, Policy Sciences 4', 1973, 156.