Citation

Luck, Rachael (2018). Participatory design in architectural practice: Changing practices in future making in uncertain times. Design Studies, 59 pp. 139–157.

URL

https://oro.open.ac.uk/57464/

License

Policy

Versions

Participatory design in architectural practice: Changing practices in future making in uncertain times

Rachael Luck, The Design Group, School of Engineering and Innovation, The Open University, Walton Hall, Milton Keynes, MK7 6AA, UK

The ways that architects invite participation in the design of future environments has evolved. This paper traces a history of architectural participatory design from the mid-twentieth century. This exploration suggests that current interest in participatory design reflects more progressive forms of architectural practice, where participatory interventions in everyday settings acknowledge and embrace value-pluralism. Architects practicing today engage people in design processes in different ways and at different scales of future-making. Improvising whilst learning, becoming and living are contemporary themes in participatory design, able to accommodate uncertain and changing situations. These understandings of architectural participation pose new questions for practice-based design research, concerning the relevance and impact of architectural research, as well as the education of architects for twenty-first century practice.

In the twenty-first century the concept of participation and the field of participatory design (PD) are well known. This was not always the case. The first international conference of the Design Research Society,
in 1971, was on the topic of Design Participation. The opening speaker at the conference, the architectural critic Reyner Banham spoke of a "*new wonder ingredient 'participation' [that had] not actually been around all that long*" (Banham, 1971). He recounted: "*This past summer, at Alvin Boyarsky's 'Summer Session' at the Architectural Association [in London] … all the radicals and Maoists went along to hear what was clearly going to be an extra-groovy talk, because it was about something in Japan as well as about participation*" (Banham, 1971).

The connections between architectural practice, participatory design and practice-based research run deep. They trace a history that is overlooked in many characterisations of professional practice and also challenge received descriptions of how architects work with people in the production

of the built environment (Frampton, 1991). The purpose of this paper is to trace a path through the changing relationships between participatory design, design research and architectural practice. It will draw out a thread of user participation in design that is woven in the practice of architecture, thereby recognizing what some architects have always been doing but is once again receiving more attention.

The argument presents an account of changes in architectural PD. It inspects architectural practice through changes in theory and methods that underscore participatory design. On this journey key moments are pointed out when there have been re-alignments in understanding architects' relationships with users and with design research, as it is undertaken through practice. This paper was motivated by a conversation at a participatory design conference in 2016, when two researchers realised they were expecting different points of reference to PD research. This observation seemed to indicate that there are still different PD communities. This paper aims to bring different PD communities into closer conversation with each other, and with recent advances in design studies research from practice-based perspectives.

This paper organises a 50-year history of architects' connections with the field of participatory design into three stages: first introducing the radical thinkers in the pioneer years, next introducing resilient architectural practices that continued these practices in challenging socio-political and economic environments and lastly, characterising the new ways that participatory design is changing architects' spatial practices in the twenty-first century. These eras might be characterised as the rise of participatory design (mid 1960s-), the resilient middle years (mid1980s-) and renewed interest in participatory design (mid 2000s-) in UK and US. This argument traverses design disciplines, as well as periods in time and locations.

This account draws from a recent conversation with Henry Sanoff, one of the pioneers, recounting his personal history of community architecture projects that have developed tools, techniques and educational practices in participatory design. The account is also constructed through published research that has studied how architects collaborate with user groups, future inhabitants and commissioning clients in the process to design buildings and places. Through this exploration new questions arise concerning: mutual learning and the construction of knowledge in PD, architectural PD's relevance and impact, and leading from this the education of architects for twenty-first century practice.

1 Pioneers and radicals

1.1 Early protagonists

Henry Sanoff is a pioneer, a leading force in developing the field of participatory design in the built environment. He happened to be where the action was about to happen, moving to the University of California Berkeley, in 1963, before the grassroots activist movement started and before the Free Speech Movement on campus. In conversation, he recounted that civil rights and social justice debates were happening in the streets initially, not on campus. There was minimal involvement of the faculty at the time. There was, however, forward thinking in the planning school and developments in psychology at UC Berkeley. It was advanced thinking in these fields that Sanoff brought into conversation with architecture - initially through a design-build farmworker housing project - reinvigorating what was taught in the School of Architecture, together with another newly appointed member of faculty, Chris Alexander.

Sanoff went on to create a radically different Master of Architecture option at North Carolina State University, as well as the Community Development Group (a pre-cursor to Community Design Centers). This defined an architectural education working with communities that still continues today. He also developed what have become seminal participatory design tools, methods and games (Sanoff, 2000), edited *Design Studies* special issues (Sanoff, 1988, 2007) and other publications that consolidate practical and theoretical insights/knowledge from real projects (Sanoff, 2007). This legacy continues to have profound influence in architecture and environmental design research, as well as bringing about tangible change in communities through built environment projects. Indeed, he defines *"Participatory design is an attitude about a force for change in the creation and management of environments for people. Its strength lies in being a movement that cuts across traditional professional boundaries and cultures. Its roots lie in the ideals of participatory democracy"* (Sanoff, 2010, p. 1).

1.2 Raising awareness, scaling-up a community design movement

Sparked by the free speech movement, students began to question the aims, methods and content of higher education, asking: *"What is the relevance of the courses we are required to take to the great issues of our time?"* (Sanoff & Toker, 2003 i). The 'relevance' challenge was further promoted by the civil rights leader Whitney Young Jr.s speech at an American Institute of Architects (AIA) convention: *"You are not a profession that has distinguished itself by your social and civic contributions to the cause of civil rights, and I am sure this does not come to you as any shock. You are most distinguished by your thunderous*

silence" (Young, 1968). One response to Young's challenge was the establishment of many community design centers (CDCs) across the United States.

Community design centres offer *pro bono* design services for non-profit organisations. They were often established with the support of universities, providing a variety of design services, such as affordable housing within their own neighbourhoods. CDCs can be understood as collectives that bring university education into closer collaboration with civil society. They are a form of outreach for Schools of Architecture and what is also referred to as service learning. The projects are 'hands on', with students actually meeting and working in communities. CDCs are often, according to Comerio, staffed by young inexperienced professionals whose ideology is stronger than their technical skills (Comerio, 1987). Design experience and expertise were being developed through student projects.

1.3 Participatory action research underscores PD

The method that underscores these foundational community projects is the practical approach of participatory action research (PAR), which draws together knowledge generated in the environment-behaviour community through design, planning, research and participation (Sanoff, 2000, p. 62). Its theoretical foundation stems from action research (Lewin, 1946) which integrates theory and practice, requiring action on a system in order to understand it. Action research is a proactive strategy in which research has political and social relevance. Action research in the built environment is a form of learning through doing/making, which chimes both with Paulo Friere's conceptions of learning in the midst of action (Friere, 1970) and importantly with a core tenet of participatory design, mutual learning (Kensing & Greenbaum, 2013). The students in the Community Design Group (and other CDCs) learn how to design with/for a community, and the participants learn how to influence the formation of a community they will inhabit.

1.4 Radical architects

In Europe there were more renowned architects who embraced participatory design ideals. Lucien Kroll objected to architects' imposition of ideals of beauty and utility on inhabitants (Ellin, 2000). Kroll involved students not only in the design of dormitories but also in actual construction (Comerio, 1987). Ralph Erskine's Byker housing in Newcastle, UK, was tied to a concern for public participation. John Habraken proposed a method that separated the 'support' base building from the 'fit out', which allowed users to have meaningful participation in the design of their homes (Habraken, 1972). Indeed, in an article for one of Henry Sanoff's *Design Studies* special issues, he described a new professional role for architects in participatory design, where the professional is not redundant but is less dominant (Habraken, 1986).

Building on Habraken's ideas, Herman Hertzberger was amongst the first to produce architectural solutions with user participation.

Central in this thinking was user improvisation in design, as a reaction against pre-defined assumptions about use that underscore modernist design ideals. Instead, it is acknowledged that users improvise in the configuration of a building during its use. Others who acknowledged this include Jencks and Silver in their conception of adhocism, accepting pluralism in cities, where formative urban forces inevitably change (Jencks & Silver, 1972, p. 33), in Rudovsky's reflections on everyday inhabitation (Rudovsky, 1964) and in Yona Friedman's manifesto emphasising unpredictability and the empowerment of the user (Friedman & Obrist, 2007). In a similar way, Walter Segal acknowledged the growth, development and change in a person and a building's life. He too interpreted Habraken's modular method, where, through self-build projects people developed skills at making their own home, as well as the capacity to adapt it at a later stage (Blundell-Jones, 2005).

1.5 Design research motivations for user engagement

The social justice movements did draw attention to a political motivation for people to participate in decision-making that would affect their lives. Given the spirit of the time, the first generation design researchers also expressed their motives for involving users in design decisions. Reyner Banham questioned: *"Why do we want … assistance in planning our cities, in designing our products? The answer is because we are not at all certain what we are about and how we should be about it"* (Banham, 1971, p. 16). Nigel Cross pointed out: *"There is certainly a need for new approaches to design if we are to arrest the escalating problems of the man-made world, and citizen participation in decision making could possibly provide a necessary reorientation"* (Cross, 1971, p. 11). At the time, however, it was unclear how people might participate in design or decision-making. John Chris Jones questioned the timing when people participate, suggesting that: *"We could talk, not about participation at the moment of decision but about participation at the moment of idea generation"* (Jones, 1971), thereby aligning user participation more closely with acts of designing.

The pioneers and radicals were architects with progressive values challenging the way the built environment was produced, at the vanguard in the reform of the architectural process. Collectively they were in the midst of great social, political and cultural change that defined a new community architecture, education and design era. The legacy from this time includes a series of tools, methods and new ideology in design research and for architectural practice. In the following section the changing relationships of building users with professional architectural expertise is examined in an era when participatory design was out of favour.

2 Persistence in practicing participatory design

2.1 Changing socio-political environment

While there was government funding for community support and regeneration projects in the 1970s, later in the 1980s there was a different political environment. In London, the Greater London Council (GLC) supported a number of community-led initiatives, including Community Technical Aid Centres, the UK equivalent to CDCs. Matrix Feminist Architectural co-op, were amongst the first architects to provide Community Technical Aid, developing PD methods, offering a design service aimed at women's needs (Jenkins, 2010). In their practice and writing, they drew attention to a gendered experience of the built environment and the ways that the built environment is produced (Matrix, 1984). Matrix's feminist gaze drew critical attention to territoriality, power and participation, noticing that the built environment we all inhabit could be otherwise (Matrix, 1984). When Rod Hackney was President at the RIBA Royal Institute of British Architects, in 1987, participatory design was promoted and there was a Community Architecture Group (Jenkins, 2010). The change in socio-political environment coincided with Maxwell Hutchison's succession to presidency, when he declared that community architecture was 'dead', "it was not simply killed, it was overkilled" (Towers, 1995, p. 217). The Community Architecture Group was disbanded. Public finance and political support for community projects were withdrawn and enthusiasm for participatory design declined.

2.2 Resilient architectural practices

There were, however, architectural practices that despite the removal of financial support continued to approach projects with a conviction for user participation (Toker, 2007) and architects who remained committed to the values of participatory design when these practices were out of favour. Indeed, *"in the decades following World War II … the architect who designs for users and whose interest is in a more humane environment"* (Blau, 1984, p. 9). These architects have a commitment to users' cultural values and, at different times, can be out of step with the sentiments of the leaders of the profession (Blau, 1984, p. 53). The architects involved are not likely to be self-publicists (Cross, 1982). These are the characteristics of the architectural practices that collaborate in PD research.

Architectural practices including Levitt Bernstein, Hans Haenlein Architects and Gensler developed methods, workshops and ways of working with people when designing housing projects and community facilities with a commitment to the values that Blau (1984, p. 53) describes. Taking residents on a study tour to the Netherlands, for example, helped nurture the belief that they could build their own closer-knit community through housing and neighbourhood re-design. What became evident was a sense of

empowerment that was engendered through participation, when, on one occasion, drawings were removed from a wall *"because it doesn't represent what you want"* (Luck, 2007a), thereby confronting the architect's design agency. There were occasions when the residents showed accomplished spatial reasoning skills, imaging alternative layouts, reading plans and describing how the layouts might be otherwise (Luck, 2014) and finding security problems in the layout of the scheme that the architects hadn't noticed (Luck, 2012). These architectural practices invested in the development of younger members of staff skills at facilitating PD workshops (Luck, 2007b). While PD practices are always situated and designed to suit the unique circumstances of each project, the practices of these architects were noticeably different from normative architectural design. For example, when a client asks whether their idea aligns with the architect's design ideals, *"Does this compromise your design?"* (Luck, 2009) this signalled that the participation was not 'genuine' in a PD sense.

2.3 Voicing participation in design

Power and spatial agency concerns were vocalised at the time. The categories 'designer' and 'user' do not accurately reflect what people do, as users evidently do design in some situations. Speaking on someone else's behalf indicates a power asymmetry, even in an advocacy position. Indeed, 'we', a phrase that represents a collective view, continues to be problematic in participatory design. Although 'we' reflects some collective intentionality, it is ambiguous which 'we' it represents, for whom do 'we' speak? There is an implication that more than one person is involved, and in PD an assumption that a collective decision has been reached through a deliberative, democratic process. This may take different forms. While a dialectical position assumes that 'the truth' can be found through logical deduction in reasoned argument, a dialogical position assumes that there are different opinions to debate, with winners and losers in decision-making. This sets up a tension, a dialectical/dialogic paradox, which reflects, on the one hand, an ideal of group consensus, which is in contrast with a critical view that sees the power of one party over another. This dialectical/dialogic paradox is unresolved when participatory design is studied as a discursive practice.

2.4 Design research's discursive turn

Design research was having its own discursive moment. Studies of designers at work in practice, in the middle years, analysed actions in conversation that can be seen as *designing*, actions that 'bring things into being' and alterative arrangements of 'what might come to pass'. These studies reflect a period when design research's predominant methodological focus was on language use, that is, on what was said together with what was accomplished in embodied actions in conversation. It might now be referred to as design research's 'discursive turn'.

In participatory design conceptions of 'better future-making' these practices can be understood as 'traditional' participatory design, as irrespective of the user's ability to participate in the design they involve articulations of anticipated 'use before actual use' (Björgvinsson, Ehn, & Hillgren, 2012b). What they share is a dependence on the users' ability to anticipate what they would like to see, based on past experience and local knowledge, in planning their own future. There is also an expectation that they are able to describe what they want, to articulate future situations through actions in conversation (gesture, with reference to visual representations, models, mock-ups prototypes) in workshops activities making and doing things with user groups that speculate on use-before-use.

In this political environment, there was a noticeable downturn in PD activity in the UK and US. There was also dilution in the force of the language of participation. Longstanding terms, such as 'charrette', which Sanoff developed as a collaborative planning process (Sanoff, 2000, p. 48) were adopted in post-Skeffington planning (Skeffington and Minstry of Housing, 1969) in situations where some form of participation was mandatory but often initiated in a top-down way in which the outcomes could be overlooked (Toker, 2007) — in other words, in situations of placatory planning (Till, 2005). Similarly, participation became compulsory on regeneration projects in France in 2002 but was organised so that "*true participation is difficult to obtain*" (Querrien, 2005). It seems fitting that the appropriation of PD's terminology coincided with social theory's discursive turn and increased attention to language as a medium to critique power.

Participatory design practices in this period can be characterised as articulating 'use before use' that is, vocalising users'/clients' anticipations of what might come to pass, or of what the future might be. Times have changed, in architects' participatory design practices and also in design research, which not only discursively 'bring things into being' but, as we will see, intervene in everyday environments. This brings PD into contact with practice-based ways of constructing design knowledge and is discussed in the following section.

3 *New progressive architectural practices*

3.1 *Diverse collectives*

There has been a reinvention in the craft of architectural practice since the 2008 global economic crisis. The economic downturn provided impetus for architects to innovate, to introduce new ways of working and diversify their spatial practices and services (Hyde, 2012). In particular, for many younger architects, it "*…made room for diverse, collective, sustainable and social processes that architects are now incorporating in their design practice … it's not so much*

that architectonic issues have changed … but the circumstances … private indi-viduals have become clients and the do-it-yourself development and construction architect is responding" (Klooster, 2012).

One way of practicing architecture that is gaining traction and increased attention are the collectives who encourage greater public participation in the design of communities, places and spaces. There were distinctive archi-tects who practiced architecture differently, and provided a broader spec-trum of spatial services before the economic downturn. Three practices are described; selected because they provide inspiration and alternative models for architects who choose a more socio-political consciousness in the way they practice.

One of these practices, muf, engaged in creative collaborations with people in the public realm re-making spaces, working in a different way with local com-munities, in "*a continual process of give and take, a two-way stretch between the practitioner and interested parties"* (muf, 2001). In conversation with muf at their book launch, it was not obvious how their initiatives ultimately became a brief or led to a commission. Their way of working with local communities before there is a project made muf distinctive and, as muf explains" "*in the realms of architectural commissioning … architecture struggles when it attempts to be an act of resistance … so you have to operate in different modes simulta-neously … to take on a commission and work against it, as an activist, as an entrepreneur."* (Hyde, 2012, p. 79) This way of working was different from CDC collaborations with people in neighbourhoods, as muf managed to act as double-agents and straddle institutional boundaries. Indeed: "*muf's subtle subversions and persuasive powers have allowed them to cajole developers and council officials alike"* (Awan, Schneider, & Till, 2011, p. 176). muf's commit-ment to collaborative practice signals a commitment to "mutual knowledge" (Awan et al., 2011, p. 175), which, as previously noted, is a core concept in participatory design. Especially noteworthy is that muf's "*methodology comes out of doing and then reflecting after doing"* (Awan et al., 2011, p. 175).

This way of practicing architecture, working closely with a local community through art projects, is similar to Boys' critical art inventions (Boys, 2014, p. 7). Boys, a co-founder of Matrix, collaborates with disabled artists through interventionist practices that breach and disrupt everyday expectations of disability in public settings (Boys, 2014, p. 45). Another collective well known for combining architecture and art are the 2015 Turner prizewinners, Assemble. Working across the fields of art, architecture and design Assemble create projects in tandem with the communities who inhabit them. Assemble's architectural spaces and environments promote direct action and embrace a DIY sensibility including, for example, longer-term collaborations with the Granby local community in Liverpool.

3.2 Design research through practice

A characteristic that these architectural practices share is working with people in creative ways, inviting participation in design processes through tangible intervention in everyday life. Using creative intervention as a form of inquiry into what to design next, this form of PD aligns with design through practice methods that take place in the field (Koskinen, Zimmerman et al., 2011), in everyday settings where social norms are broken to generate reflections 'on what counts' (Halse & Boffi, 2016). These are reflections after an intervention, which lead to something else and reflect a contemporary understanding of design processes that can no longer be neatly delineated by a start and finish (Akama, 2015). Furthermore, given recent interest in design anthropological understandings in the making of possibilities, uncertainty is increasingly viewed as generative in participatory design (Akama, Pink, & Sumartojo, 2018, p. 33).

In an architectural realm this understanding of design as a process of ongoing change manifests in place, neighbourhoods and communities that exist before something else is built, and after construction when the inhabitants re-configure it through use. This perspective echoes the concepts of 'improvisation' and 'impermanence' that were important to pioneers in PD's early years. Indeed, there is renewed interest in looking back at previous views on the future (Habraken, 2017) examining how uncertainty has been conceptualised over a longer period of time, including Stewart Brand's 'the long now' (Murray, 2017). The values and aspirations of PD's early years are echoed in today's architectural themes of 'loose-fit' and 'designing for the unknown' (Lifschutz, 2017). Indeed, the way that PD is adapted at a local level on a project, as it changes over time, is an ongoing matter of concern (Andersen, Danholt, Halskov, Brodersen Hansen, & Lauritsen, 2015). In architects' closer collaborations with people in communities and PD's attention to situated, embodied and lived accounts rather than those of a detached observer (Akama et al., 2018, p. 6), the PD researcher is already situated and implicated within the sites they perform (Suchman, 2002). There is a political dimension to this.

3.3 Agonism in PD and architecture

The political theorist Chantal Mouffe was invited to speak at the Architectural Association on the place for the political in architecture. Mouffe gave a general account of theories of conflicting pluralities from Nietzsche and Weber through Carl Schmitt, Arendt and Foucault in contrast to liberal accounts, from Mill to Berlin, Habermas and Rawls of deliberative democracy. Having defined a theoretical spectrum ranging from conflicting pluralities to deliberative democracy, she then presented her own version of agonism in value pluralism (Hatton, 2015). Presenting this at one of the preeminent architectural institutions, Mouffe signals agonism as an important political theory

in debate on the production of architecture. Agonism, as a political vantage point, already has traction in PD research.

Agonism emphasises contention as foundational to democracy (Disalvo, 2012) and in participatory design is a central concept for exploring democracy, innovation and other future-making practices in ways that go beyond consensual decision making (Björgvinsson, Ehn et al., 2012b). Agonism sees potential in channeling (some but not all) differences in opinion positively. When applied in "*agonistic participatory design … the term 'agonistic' places emphasis on understanding that when we reach out to diverse groups in the broader society − particularly those who have been marginalised − we need to go beyond basic ideas of participatory democracy that involve consensus or majority decision making … to help participants confront dominant ideologies and power relations in … society*" (Bjorgvinsson, Ehn, & Hillgren, 2012a).

In agonism's acceptance of disagreement, persistent conflict and value pluralism, it deflects attention away from the pursuit of consensus in group decision-making. The quest for the truth − which in design research's discursive years was an unreconciled dialectical-dialogical paradox − vanishes. There is no aspiration to arrive at consensus, at a collectively shared decision through dialogue. Instead, PD practices that involve provocation and lead to disagreement within a group are viewed as constructive ways to generate reflections on what counts. Importantly, as a PD tactic as well as political framing, agonism scales beyond a single project. It is reflected in PD's confrontations with institutions, authority and publics."*Agonistic democracy does not presuppose the possibility of consensus and rational conflict resolution. Instead, the hegemony of dominant authority is potentially challenged through manifold forceful but tolerant disputes among passionately engaged publics*" (Bjorgvinsson, Ehn et al., 2012a).

3.4 Scaling up architects' participatory design practices

This ability to scale beyond a project is important as architects champion participation in design, development and creative growth at larger scales. Ilmar Reepalu, an architect and mayor of Malmo, instigated the Urban Labs initiative, an early example of a participatory design living lab neighbourhood, through a series of interventionist projects (Emilson, Hillgren et al., 2014, pp. 35−61). In this movement the 'user/publics' are characterised as experts, as "professionals of the everyday" (Meroni, 2007, p. 127), thereby recognising this expertise more favourably. This mode of ongoing engagement and participation echoes the sentiments of the early pioneers, such as Kroll and Rudovsky, who extended the length of a project to include its use. PD initiatives at scale include the R-Urban resilient commoning in cities (Petrescu, Petcou et al., 2016), which understands that it is through use and life in a city that places work and communities grow. Jamie Lerner, mayor for Curitiba, was

among the first to apply architectural expertise to city-wide interventions, leading to a bus transit system at urban scale, which was successfully replicated in Bogotá (Kroll, 1999). George Fergusson, a former RIBA President, was the first elected mayor for Bristol, scaling up from project to a city-wide agenda for change through design. Bristol is now an influential part of the smart cities initiative.

For architects this change has involved scaling up their governance capacity, from participatory design projects to citizen participation in masterplanning and regional development. Indeed, Manzini sees the role of designers as enablers (Awan et al., 2011, p. 170), extending their responsibility beyond the timescale of a single project, adjusting their activities from 'projecting' to 'infrastructuring', through ongoing changes in a situation, in a continuous 'process of becoming' within an ecosystem (Björgvinsson, Ehn et al., 2012b; Manzini, 2018). Decision-making at this scale, in a city-wide programme of PD interventions, overcomes some of the limitations of university-civic engagements that are constrained by a single-project lifespan. More recent university PD collaborations with local government, such as the Genk creative workspaces initiative, co-joined the problem of loss of work with location questions, where to work and how to value human capacity within a community. With this expansion of scale there was adjustment in the relationship of research interventions with a municipality and democratic government (Binder, Brandt, Ehn, & Halse, 2015). Thinking at a regional scale can lead to creative growth in collaborations between communities, civil society, academia and local government.

International development and disaster relief are global-scale PD initiatives through which architects take these capacity-building values forward in collaboration with NGOs (Sanoff, 2000, p. 1). Architecture Sans Frontières (Frediani, 2016) and Shigero Ban are renowned for their long-standing disaster-relief work. The architect Teddy Cruz works with NGOs on both sides of the US and Mexico border on political issues in the production of the built environment (Awan et al., 2011, p. 144). Yona Friedman's longstanding commitment to capacity building is evident in visual, self-build manuals for UNESCO (Friedman & Obrist, 2007). In these PD initiatives architectural expertise is just one form of knowledge that is brought into play when building communities. Architects mobilise not only their skills in spatial problem-solving but also in organisation and the art of politics.

4 Reflection on change in architectural PD: education, epistemics and impact

This exploration has shown that architectural PD practices are not static, they emerge and evolve, and knowledge of these practices is not evenly distributed. The ways that architectural PD has been practiced since the mid-twentieth

century was organised in this argument in three eras, acknowledging that the PD practices of one period do not succeed those of a previous time; they co-exist. The discursive PD practices that elicit anticipatory accounts of use-before-use are still part of the architectural PD repertoire in the twenty-first century, while speculations on possible futures are increasingly created through PD interventions. In this timescale, the practical methods and theory that underpin PD practices have developed. There has been a scaling-up from projects, to public space and programmes in cities and, with this, a re-orientation from understanding participants as users to people, active publics and citizens with a democratic voice. These changes in architectural participatory design practices lead to new reflection on: the education of architects for the twenty-first century practice; acknowledging mutual learning and the construction of knowledge in various locations and also by drawing attention to the impacts of architectural PD, where people, as well as places, are changed through PD processes.

4.1 Educating architects for twenty-first century practice

The architectural curriculum is one way to reinvigorate the next generation's enthusiasm for PD. The live-project continues to be an important vehicle for learning and further developing PD practices (Harriss, 2014), following a pedagogy that stems from Sanoff's foundational Master of Architecture at North Carolina State University. This practical experience is now central to the design ethos of many schools. Concerns that have been expressed about the real-world relevance of architectural education vanish when design projects engage with social and spatial issues in collaboration with local communities. Architectural interventions in the everyday are not new, for example, the AA Architectural Association Polyark students toured the UK on a converted bus, with the aim of setting up a dialogue with the world 'out there' (Doucet, 2016). There is, however, renewed interest in more radical pedagogic practices and experimentation in new sites of contestation (Harriss, 2015).

The learning that is most often acknowledged in these collaborations is the development of students' experiential knowledge as well as their competence in conversing with different people (Luck, 2007b). Less discussed but equally important is the mutual learning that occurs between students and the practitioners who tutor in the design studio. In this exchange, novel interventions for particular projects are created, and ideas circulate between academe and professional architectural practices, broadening the socio-cultural understanding of what counts as architecture in the twenty-first century.

The theory and research methods that are taught as part of an architectural curriculum need refreshing, to encourage debate on the practical and theoretical underpinnings of participatory design and interventionist practices. While social science theory has been part of some architectural education (e.g.,

Lefebvre in Paris in 1970s), what is also needed is more nuanced debate of design research undertaken in practice.

4.2 Epistemics of PD interventions

Participatory design constructs new knowledge through its practice. In interventionist "*democratic design experiments, the very 'making' in design is both a negotiation of how this experiment may unfold and a contribution to the repertoire of making democratic decisions*" (Binder et al., 2015). The direction a PD experiment may take cannot be entirely foreseen. There is a shift in epistemics, given the uncertain new insight and knowledge generated in constructivist interventions. There is a realm of possibility, which is articulated especially clearly through the concept of, "*'between-ness' … how we are transforming and becoming together*" (Akama, 2015). Indeed, "*a design anthropological approach to participatory design seeks to understand 'what it is like to be immersed in the moments of change and how this is constantly evolving and becoming going beyond epistemic conventions we often see in discourses of Actor Network Theory and Science and Technology Studies*" (Akama et al., 2018, p. 6). This sensibility entails a "*willingness to engage with a possible way beyond our scope of tangible knowing and feeling*" (Akama et al., 2018, p. 5). For example, staging a tea party with embedded questions opened up opportunities to explore conviviality in the home (Light & Akama, 2014). These experiential, exploratory notions, such as, 'living with' and 'between-ness' share resonances with one of the pioneers, Rudovsky's approach to 'architecture as a way of life' (Rudovsky, 2007) as experiential PD becomes less distinct from everyday life. What then counts as research, who does this and where is it located?

In practice-based research can be difficult to distinguish between research in the form of novelty or innovation in practice, from more systematic investigation and exploration that characterises a novel research contribution for academic purposes. What counts as research requires an overarching research question that is defined before a programme of experiments (Binder & Brandt, 2017), that is, before a research intervention takes place, to then design something else. Indeed "*Research is seen not only as a process of creating knowledge, but simultaneously, as education and development of consciousness, and of mobilization for action*" (Sanoff, 2008).

The distinctions between research, teaching and architectural practice are also blurred in PD projects. The live-project is a pedagogic vehicle, a form of service learning with local communities, students, practitioner-tutors and academics. Academics also engage in PD research with practitioners and communities and their PD actions and practices are sometimes reported as research. By positioning PD expertise within projects, which generate "*situated, embodied and lived accounts rather than a detached observer*" (Akama

et al., 2018, p. 6) the PD researcher is already located within the site they perform. Researchers in these collaborations are framed as 'inside practitioners' who challenge assumptions and offer new insights about practice, engagement and possibilities for transformation (Snepvangers & Mathewson Mitchell, 2018). Given these entangled connections between research, teaching and practice it is unsurprising that architectural research continues to be difficult to define.

Subtle and nuanced connections are formed with people through research that is conducted in practice. PD is an always-unfolding form of practice against the backdrop of everyday life, where PD interventions act as moments of disruption and reflection, to change and transform everyday practices. Given that all PD activities are conducted with people whose lives are changed through this experience, what PD activity is not a form of knowledge exchange or outreach that has impact? The changes that are enabled through PD initiatives, however are seldom credited for their longer-term achievements or discussed in research impact terms.

4.3 Impact of architectural PD

The PD project acts as a site for learning and change in several senses, and may include the participants' changed understanding and appreciation of the value of the community in which they live, as well as concrete changes to spatial arrangements in the environment. There are transformations in the mindset, knowledge, emotions and social relations of people who participate in such practices (Lam, Phillips et al., 2018), as they become empowered and grow through understanding their own capabilities. These engagements have the potential to be transformative, are educational (a form of mutual learning) and are linked to the democratic principles of a civic agenda.

What seems to be forming is an ecology around PD projects and programmes that enable transitions and 'becomings' through significant relationships in an expanded field of creative partnerships (Snepvangers & Mathewson Mitchell, 2018). This provides a rich culture for engaged-researchers to cultivate synergies between their efforts in teaching, research and knowledge exchange. Indeed, relationships between universities, local communities and enterprise are changing through agendas that prioritise social and economic impact and stronger connections with broader societal change (Nowotny, Scott et al., 2001, p. 19). Increasingly knowledge creation is encouraged through partnerships between the public and universities, which act simultaneously as local and global knowledge institutions.

5 Conclusion

Participatory design is inherently unsettled. PD is plural in the ways that it is practiced in architecture, and as a series of histories that are entwined. This

paper has characterised the changing relationships between participatory design, design research and architectural practice since the mid-twentieth century and brought debates in participatory design in architecture into closer conversation with advances in PD in other fields, including practical and theoretical insights from practice-based perspectives on design research.

There is a more plural sense in which architecture is now practiced, including architects and collectives that develop alternative ways to engage people, communities and publics in participatory design. In PD projects and programmes of research that are conducted through practice, distinctions between knowledge that is constructed through teaching, outreach and research become blurred. There is a sense of ongoing mutual learning, living in the midst of change, where 'becoming' may be an apt characterisation for architectural participatory design that is always incomplete. These new understandings of what PD is and what can be accomplished through its practices may lead to change in the education of architects, ready for twenty-first century practice.

Acknowledgements

References

Akama, Y. (2015). Being awake to Ma: Designing in between-ness as a way of becoming with. *Co-Design, 11*(3−4), 262−274.

Akama, Y., Pink, S., & Sumartojo, S. (2018). *Uncertainty and possibility: New approaches to future making in design anthropology*. London: Bloomsbury.

Andersen, L., Danholt, P., Halskov, K., Brodersen Hansen, N., & Lauritsen, P. (2015). Participation as a matter of concern in participatory design. *Co-Design, 11*(3−4), 250−261.

Awan, N., Schneider, T., & Till, J. (2011). *Spatial agency: Other ways of doing architecture*. Oxford: Routledge.

Banham, R. (1971). In N. Cross (Ed.), *Alternative networks for the alternative culture? Design participation* (pp. 15−18). London: Academy Editions.

Binder, T., Brandt, E., Ehn, P., & Halse, J. (2015). Democratic design experiments: Between parliament and laboratory. *Co-Design, 11*(3−4), 152−165.

Binder, T., & Brandt, E. (2017). *Design (research) practice. Practice based design research*. L. Vaughan. London: Bloomsbury 101−110.

Bjorgvinsson, E., Ehn, P., & Hillgren, P. (2012a). Agonistic participatory design: Working with marginalised social movements. *Co-Design, 8*(2), 127−144.

Björgvinsson, E., Ehn, P., & Hillgren, P. (2012b). Design things and design thinking: Contemporary participatory design challenges. *Design Issues, 28*(3), 101−116.

Blau, J. (1984). *Architects and firms: A sociological perspective on architectural practice*. Boston: MIT.

Blundell-Jones, P. (2005). In P. Blundell-Jones, D. Petrescu, & J. Till (Eds.), *Sixty-eight and after. Architecture and participation* (pp. 127−139). Abingdon: Spon Press.

Boys, J. (2014). *Doing disability differently: An alternative handbook on architecture, dis/ability and designing for everyday life*. London: Routledge.

Comerio, M. C. (1987). Design and environment: 20 years of community architecture. *Built Environment, 13*(1), 15−28.

Cross, N. (Ed.). (1971). *Design participation: Proceedings of the design research society's conference*. London: Academy Editions.

Cross, N. (1982). Participation. *AJ Architects Journal*, 76−78, 20th January.

Disalvo, C. (2012). *Adversarial design*. London: MIT Press.

Doucet, I. (2016). Architecture wrestling the social: The "live" project as a site of contestation. *Candide Journal for Architectural Knowledge, 10*, 13−40.

Ellin, N. (2000). Participatory design on the Parisian periphery: Lucien Kroll's Vignes blanches. *Journal of Architectural Education, 53*(3), 178−183.

Emilson, A., Hillgren, P., & Seravalli, A. (2014). In P. Ehn, E. Nilsson, & R. Topgaard (Eds.), *Designing in the neighbourhood: Beyond (and in the shadow of) creative communities. Making futures: Marginal notes on innovation, design and democracy*. London: MIT Press.

Frampton, K. (1991). A critique of contemporary production. In D. Ghirardo (Ed.), *Out of site: A social criticism of architecture*. Washington: Bay Press.

Frediani, A. (2016). Re-imagining participatory design: Reflecting on the ASF-UK change by design methodology. *Design Issues, 32*(3), 98−111.

Friedman, Y., & Obrist, H. (2007). *Yona Friedman*. Koln, Konig.

Friere, P. (1970). *Pedagogy of the oppressed*. New York: The Continuum International Publishing Group Inc.

Habraken, N. J. (1972). *Supports: An alternative to mass housing*. London: Architectural Press.

Habraken, J. (1986). Towards a new professional role. *Design Studies, 7*(3), 139−143.

Habraken, J. (2017). Back to the future: The everyday built environment in transition. *Architectural Design, 87*(5), 19−23.

Halse, J., & Boffi, L. (2016). Design interventions as a form of inquiry. In R. C. Smith, K. Tang Vangkilde, & M. G. Kjaersgaard, et al. (Eds.), *Design anthropological futures* (pp. 89−103). London: Bloomsbury.

Harriss, H. (2014). *Architecture live projects: Managing emergent ambiguities in risk exposure and decision-making*. Sheffield: Living and Learning AAE Association of Architectural Educators Conference.

Harriss, H. (2015). *Radical pedagogies: Architectural education and the British tradition*. London: RIBA Publishing.

Hatton, B. (2015). Seeking the place of 'the political' chantal mouffee at architecture exchange- Travails with an agonism aunt: How is architecture political? Chantal Mouffe, pier Vittorio Aureli, Reinhold martin, Ines Wiezman and Sarah whiting. *Arq Architectural Research Quarterly, 19*(1), 13−17.

Hyde, R. (2012). *Future practice: Conversations from the edge of architecture*. London: Routledge.

Jencks, C., & Silver, N. (1972). *Adhocism: The case for improvisation*. Cambridge MA: MIT Press.

Jenkins, P. (2010). Community technical aid and community architecture. In P. Jenkins, & L. F. Orsyth (Eds.), *Architecture participation and society* (pp. 23−38). Abingdon: Routledge.

Jones, J. C. (1971). Closing comments. Design participation. In N. Cross (Ed.). London: Academy Editions.

Kensing, F., & Greenbaum, J. (2013). In J. Simonsen, & T. Robertson (Eds.), *Heritage: Having a say*. *Routledge international handbook of participatory deisgn* (pp. 21−36). New York: Routledge.

Klooster, I. (2012). *Reactivate: Innovators of Dutch architecture*. trancityXvaliz.

Koskinen, I., Zimmerman, J., Binder, T., Redstrom, J., & Wensveen, S. (2011). *Design research through practice: From the lab, field and showroom*. Waltham: Elservier Inc.

Kroll, L. (1999). Creative Curitiba. *The Architectural Review, 1227*(205), 92−95.

Lam, B., Phillips, M., Kelemen, M., Zamenopoulos, T., Moffat, S., & de Souza, S. (2018). Design and creative methods as a practice of liminality in community-academic research projects. *The Design Journal*. https://doi.org/10.1080/14606925.2018.1469329.

Lewin, K. (1946). Action research and minority problem. *Journal of Social Issues, 2*, 34−36.

Lifschutz, A. (2017). Loose-fit architecture: Designing buildings for change. *Architectural Design, 87*(5).

Light, A., & Akama, Y. (2014). *Structuring future social relations*. *PDC 14 participatory design conference*. Windhoek Nanbia.

Luck, R. (2007a). Using artefacts to mediate understanding in design conversations. *Building Research & Information, 35*(1), 28−41.

Luck, R. (2007b). Learning to talk to users in participatory design situations. *Design Studies, 28*(3), 217−242.

Luck, R. (2009). Does this compromise your design?' interactionally producing a design concept in talk. *Co-Design, 5*(1), 21−34.

Luck, R. (2012). Kinds of seeing and spatial reasoning: Examining user participation at an architectural design event. *Design Studies, 33*(6), 557−588.

Luck, R. (2014). Seeing architecture in action: Designing, evoking and depicting space and form in embodied interaction. *International Journal of Design Creativity and Innovation, 2*(3), 165−181.

Manzini, E. (2018). Weaving people and places: Art and design for resilient communities. *She Ji, 4*(1), 1−9.

Matrix. (1984). *Making space: Women and the made made environment*. London: Pluto Press.

Meroni, A. (2007). In F. Jegou, & E. Manzini (Eds.), *Creative communities: People inventing sustainable ways of living*. *Collaborative services: Social innovation and design for sustainability* (pp. 127−128). Milano: Edizioni Polidesign.

Murray, P. (2017). Learning from the west-coast longtermism and change: An interview with Stewart Brand. *Architectural Design, 87*(5), 24−29.

Nowotny, H., Scott, P., & Gibbons, M. (2001). *Re-thinking science: Knowledge and the public in an age of uncertainty*. Cambridge: Polity Press.

muf. (2001). *This is what we do: A muf manual*. London: Ellipsis.

Petrescu, D., Petcou, C., & Baibarac, C. (2016). Co-producing commons-based resilience: Lessons from R-Urban. *Building Research & Information, 44*(7), 717−736.

Querrien, A. (2005). In P. Blundell-Jones, D. Petrescu, & J. Till (Eds.), *How inhabitants can become collective developers: France 1968-2000*. *Architecture and participation* (pp. 105−115). Abingdon: Spon Press.

Rudovsky, B. (1964). *Architecture without architects: A short hisotry to non-pedigreed architecture*. *The museum of modern art*. Doubleday.

Rudovsky, B. (2007). *Lessons from Bernard rudofsky: Life as a voyage*. Birkhauser Verlag.

Sanoff, H. (1988). Editorial. *Design Studies, 9*(1), 2−3.

Sanoff, H. (2000). *Community participation methods in design and planning*. New York: John Wiley & Sons Inc.

Sanoff, H. (2007). Editorial. *Design Studies, 28*(3), 213−215.

Sanoff, H. (2008). Multiple views of participatory design. *International Journal of Architectural Research, 2*(1), 57−69.

Sanoff, H. (2010). *Democratic design*. Berlin: Verlag.

Sanoff, H., & Toker, Z. (2003). *Three decades of design and community*. North Carolina: North Carolina State University.

Skeffington, A., & Minstry of Housing. (1969). *People and planning: Report of the committee on public participation in planning*. London: HMSO.

Snepvangers, K., & Mathewson Mitchell, D. (2018). *Beyond community engagement: Transforming dialogues in art, education and the cultural sphere*. Champaign: Common Ground.

Suchman, L. (2002). Located accountabilities in technology production. *Scandinavian Journal of Information Systems, 12*(2), 91−105.

Till, J. (2005). The negotiation of hope. Architecture and Participation. In P. Blundell-Jones, D. Petrescu, & J. Till (Eds.) (pp. 23−42). Oxford: Spon Press.

Toker, Z. (2007). Recent trends in community design: The eminence of participation. *Design Studies, 28*(3), 310−323.

Towers, G. (1995). *Building democracy: Community architecture in the inner cities*. London: Routledge.

Young, W. (1968). *Keynote address at the 1968 AIA convention in Portland Oregon*. Retrieved 4.8.2018, from https://network.aia.org/regionalandurbandesign.