

From Rationalism to Critical Pragmatism: Revisiting Arnstein's Ladder of Public Participation in Co-Creation and Consultation

Aaron Davis¹, Jane Andrew¹
¹The University of South Australia

Abstract: Governments and cities around Australia and indeed the world have recognised the need to shift toward more inclusive decision making processes, particularly when dealing with issues of the public realm. Despite some significant efforts in this space, including in the creation of urban living laboratories, there is a continued scepticism of consultative processes, and little accountability as to whether the stated goal was achieved. The International Association for Public Participation's (IAP2) public participation spectrum (Inform, consult, involve, collaborate, and empower) is currently the primary way of describing the level of involvement (or not) of citizens in decision making processes. Many elements of this spectrum can be traced back to Arnstein's 1967 Ladder of Public Participation, however, there is one significant difference. The IAP2 approach is largely based on rationalism (planning and strategy), while Arnstein's Ladder supports a critically pragmatic approach based on reflection and assessment of actual outcomes. This paper uses Forester's theory of critical pragmatism to contrast the IAP2 spectrum with Arnstein's Ladder as ways of evaluating public consultation. With support from Sennett's (2012) notions of dialogic and dialectic cooperation, the paper highlights the mismatch between assessing planned and actual outcomes, and suggests how the adoption of Arnstein's Ladder alongside the IAP2 spectrum might help governments and cities to engage more meaningfully with their citizens.

Keywords: *Co-creation, public participation, evaluation, critical pragmatism*

Introduction

Governments and cities around Australia and indeed the world have recognised the need to shift toward more inclusive decision-making processes, particularly when dealing with issues in the public realm that are politically complex. A broad range of tools, techniques, and strategies have been developed to facilitate this cooperation, however, there remains some distrust about the transparency and effectiveness of these processes.

In South Australia, the State Government has been working through the Better Together program to improve consultation efforts, with significant resources being devoted to trialling a variety of tools and techniques in the South Australian context. This includes the use of participatory decision-making processes through the Fund My (Community / Idea / Neighbourhood / Project) programs, and the YourSAy platform.

The engagement is delivered within a series of frameworks, including a suite of six principles of engagement, and the International Association for Public Participation (IAP2)'s spectrum of public participation. These frameworks are used to guide the development and evaluation of participatory processes, and distinguish between different levels of public engagement and empowerment.

This paper presents a brief introduction to the concepts underpinning these frameworks, particularly the concept of the Living Laboratory that has recently emerged in the South Australian Government's strategic language; then explores the nature of public engagement and involvement in design processes before moving to a discussion that contrasts the applications of the IAP2 spectrum with Arnstein's Ladder of Citizen Participation (Arnstein, 1969). The paper specifically focusses on the South Australian Government's attribution of specific tools to levels within the IAP2 spectrum, to highlight the need for a holistic approach to the planning and evaluation of consultation processes.

The paper concludes by highlighting some of the significant challenges associated with the use of the IAP2 framework for reporting on community engagement and suggests ways in which an approach of critical pragmatism, utilising Arnstein's Ladder of Citizen Participation as an evaluation strategy could be used to augment the current processes for planning and evaluating consultation processes.

Background

User- or citizen-engagement has a rich history in design practices, emerging in the 1970s in response to the need for companies deploying new technological infrastructure in workplaces to co-create the systems and processes through which their technological infrastructure would be utilised. User involvement here was seen as critical because the technological infrastructure was redefining not only

the way specific tasks would be carried out, but also the system of work in which these tasks would be arranged (Hyysalo and Hakkarainen, 2014; Szebeko and Tan, 2010).

In subsequent decades, the discourse and practice of user-engaged design has grown and evolved, from being about the design and development of relatively closed systems (such as a product), to being about involving people that are affected, but less directly connected to a product or service. This includes end-users but also those directly and indirectly affected by the design, manufacture, and implementation processes. Most recently, engaged design-led processes have become a cornerstone of Living Laboratories, being promoted by the European Network of Living Laboratories (ENoLL) (Salter and White, 2013).

There is a broad range of terminology that is often used interchangeably to describe engaged design processes, including co-design, co-creation, co-production, citizen-led, and participatory-design. While the subtle differences between each will not be explored in this paper, each refers to some degree to an ongoing and iterative process for engaging end-users in a design process (Ind and Coates, 2013; Sanders and Stappers, 2008; Hyysalo and Hakkarainen, 2014; Botero and Hyysalo, 2013). This paper uses the term co-creation firstly because it functions as an overarching methodological approach within which processes described by the other terms can be hosted (Sanders and Stappers, 2008), and secondly because it is the terminology used by ENoLL and its members (Salter and White, 2013).

Within the co-creation literature there is a focus on a distinct shift in the users' role, from being the subject of design to being a partner in design (Szebeko and Tan, 2010; Pieter Ballon et al., 2015), and a focus on processes rather than finished products (Binder et al., 2015; Buchanan, 1992). Of the literature that has emerged through the Living Laboratories movement, the majority has taken place in the context of living laboratories that are focussed on ICT applications. There is however, a growing number of Living Laboratories that are exploring systems and ecosystems that can broadly be categorised as Urban Living Laboratories (ULL) (Sauer, 2014; Salter and White, 2013). McCormick and Hartmann describe ULL as spaces for the development of new ideas and concepts, as well as for new forms of decision making and citizen involvement, signalling a significant departure from the original ICT focus of living laboratories (McCormick and Hartmann, 2017).

The discourse and use of ULL has been embraced by researchers and policy makers as spaces that function as real-world test-beds for new-products services and systems (Leminen et al., 2015), and as spaces to co-create ideas and innovations (Pieter Ballon et al., 2015). This is evidenced in the South Australian context by projects such as the Adelaide Living Laboratory, and the Ageing Well Living Laboratory, and by national organisations such as the Cooperative Research Centre for Low Carbon Living embracing their use. Importantly, the experimental focus of ULL lends itself to facilitating the co-creation of new democratic approaches (McCormick and Hartmann, 2017), allowing not only the policies, but also the orienting theories that lead to these policies to be examined (Schön, 1983; 1987).

Engaging the public in design

In 1971 Nigel Cross announced 'the coming of the everyman' to design, suggesting that designers needed to start to involve non-designers in their processes (Cross, 1972). This signalled a call to shift the focus of designers from finding solutions to societal problems, to leading an engaged and collaborative approach with non-designers, effectively democratising access to the design process (Binder et al., 2015). This approach has been highly successful in Living Laboratories where product and service innovations have been co-created with a variety of stakeholders through people, public, private partnerships (4P).

The public or commons nature of ULL however, means that the co-creation process faces the challenge of addressing the needs of both the 'users' that are involved, and of the broader public, as well as the paying client. While there are of course implications for the broader community of users in the development of any product or service, the public nature of projects in the urban realm creates a specific and unique set of challenges. These challenges are predominantly focussed around democratic decision making, and the need to fit within existing systems and processes for public consultation.

There have been a number of recent explorations in the literature specifically addressing this democratic nature of design in public spaces including Munthe-Kaas and Hoffmann (2016), Petrescu et al. (2016), Krzywoszynska et al. (2016), Manzini and Rizzo (2011), London and Cadman (2009) and Binder et al. (2015). Two key threads emerge:

1. That democratic design is a site for the creation of new democracies, outside of existing political processes through an exploration of new processes in design, and

2. that democratic design is about democratising the process of realising a design and allowing 'the public' to participate.

Democratic design experiments in ULLs are seen as sites not only for the development of new products and services, but for raising awareness about and questioning the broader socio-technical system in which the experiment is taking place (Manzini and Rizzo, 2011). By situating democratic design experiments outside of existing macro-scale democratic processes (such as the planning system), many of the tensions and the weight of the historical status quo are removed from the design process, allowing a greater degree of freedom in their outcomes (Binder et al., 2015). However, this can also lead to projects being more easily discontinued and results forgotten about through changes in government (Petrescu et al., 2016).

Involving the public in decision making is broadly supported in the literature (Baccarne et al., 2013; Salter and White, 2013), however, some questions remain about scaling the outcomes of selective public participation in a political system that is built on representative democracy (Schatz and Rogers, 2016). Regardless, participatory processes are still seen an important part of engaging citizens in the debate about cities, and of engaging communities in discussions about big-picture social structures and challenges (Frediani, 2016).

Current public participation approaches in the urban environment are heavily criticised by London and Cadman (2009) who found that current participatory planning processes are used to do little more than grant legitimacy to, and help sell, proposals. They suggest that while in the 1980s collaborative design and participatory design processes often sought to respond to concerns at a neighbourhood scale, more recent experiences have seen participation focussed on the expression of individual concerns, and therefore on the prevention of development rather than constructive contribution to the kinds of visioning processes described by (Manzini and Rizzo, 2011).

This would appear to suggest that while our ambitions for participatory processes remain similar to those expressed by Cross in 1971, i.e. involving non-designers in the design process, there are still some unresolved tensions between the conceptual reasoning of participatory design processes and their actual application.

Measuring and defining participation

The South Australian government has committed to an ambitious plan for engaging the public in a wide range of government decision making processes through the Better Together program. Led by Premier Jay Weatherill, this program seeks to give people 'more opportunity to be involved in the decisions that affect their lives' (Weatherill in Government of South Australia, 2016a: 3). A suite of public participation tools have been rolled out as a part of this program that have been mapped to the varying levels of the International Association for Public Participation (IAP2) spectrum (Figure 1).

Figure 1: IAP2's Public Participation Spectrum.
 (Adapted from Government of South Australia (2016a: 9)
 developed by International Association of Public Participation (IAP2) International
 Federation 2014)

| | Inform | Consult | Involve | Collaborate | Empower |
|----------------------------------|--|--|---|--|--|
| Public participation goal | To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions. | To obtain public feedback on analysis, alternatives and/or decisions. | To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered. | To partner with the public in each aspect of the decision, including the development of alternatives and the identification of the preferred solution. | To place final decision-making in the hands of the public. |
| Promise to the public | We will keep you informed | We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision. We will seek your feedback on drafts and proposals. | We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision. | We will look to you for direct advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible. | We will implement what you decide. |
| Example tools | Fact sheets Websites Open houses | Public comment Focus groups Surveys Community meetings | Workshops Deliberative polling | Citizen advisory committees Consensus-building Participatory decision-making | Citizens' Juries Ballots Delegated decisions |

The kinds of tools listed here have all been demonstrated by the State Government to varying degrees, however, more recent publications by the SA government follow the lead of the Local Government Association of South Australia and remove the empower level of this spectrum from their publications. This leaves collaborate as the highest level, suggesting perhaps some concern about embarking on the higher, empower level (Local Government Association of South Australia, 2016b; Better Together, 2017). The removal of this level is not unexpected, with Sanders and Stappers (2008) pointing to a general political reluctance to engage in this kind of power redistribution as a part of co-creation processes, and London and Cadman (2009) pointing to current processes focussing on generating political capital rather than empowering citizens.

The IAP2 was set up in 1990 with the goal of advancing and extending public participation in decision making. The organisation has developed a public participation spectrum, seen in Figure 1 that is widely used by governments in planning and reporting on public consultation initiatives. The spectrum features five levels: inform, consult, involve, collaborate, and empower. These levels are described in terms of a public participation goal, and through an example promise that is being made to the public. McGinley and Nakata (2012) link the IAP2 spectrum with an older evaluation instrument, Arnstein's Ladder of Citizen Participation (Figure 2). At face value, the levels of the IAP2 spectrum appear to emulate Arnstein's Ladder: 'inform' pairs with 'informing', 'consult' with 'consultation', 'involve' with 'partnership', 'collaborate' with 'delegated power', and 'empower' with 'citizen control' (McGinley and Nakata, 2012). There are however, some challenges in making these links. This will be explored later in this paper.

Figure 2: A Ladder of Citizen Participation
(Adapted from Arnstein (1969))

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

Evaluating co-creation processes

The kinds of active collaborations with end-users and citizens that are advocated for in the co-creation literature have significant similarities to rhetoric of the community consultation sphere in governments around Australia (see for example: Local Government Association of South Australia, 2016b; Department of Sustainability and Environment, 2015; Better Together, 2017; Government of South Australia, 2016a).

While the goal of co-creation varies from project to project, some of the key benefits that are often cited in the literature are:

- 1.) that products and services are designed in a way that meets actual user needs,
- 2.) that participation in a co-creation process helps users to better understand how a product or service works, and
- 3.) that involvement gives participants an active interest in promoting the success of the product or service.

While these points may not appear to be problematic in their translation to community consultation, if the benefit of educating users becomes a goal of a process rather than a secondary (although significant) benefit, then the process could be most aptly described as achieving the 'inform' level on the IAP2 spectrum, or the 'therapy' level on Arnstein's Ladder.

There are some obvious linguistic similarities between the IAP2 spectrum and Arnstein's Ladder, but a closer examination of the two spectra reveals a key difference in their respective applications. The IAP2 spectrum is primarily focussed on defining a strategy for government to involve the public in decision making processes, assigning goals for a process and making a series of exemplar promises as to how a process will be carried out; Arnstein's Ladder on the other hand assesses the outcomes and categorises the actual application of a public participation strategy.

Arnstein's Ladder allows goals to be set that focus on outcomes, and can describe a number of processes that cannot be explained through the IAP2 spectrum. For example, if the goal of a public participation initiative is to build consensus around a particular position, this could be described as 'therapy' on Arnstein's Ladder, but cannot be explained by any of the levels of the IAP2 spectrum. Instead, an analysis through the IAP2 spectrum would primarily focus on how the consultation is taking place, rather than why.

Similarly, when using Arnstein's Ladder to considering the way in which the tools listed in Figure 1 can be applied, a whole host of new possibilities emerge. The creation and running of a citizen advisory committee for example, satisfies the collaborate level of the IAP2 spectrum. However, this tool could fit into almost any of the levels of Arnstein's Ladder, depending on the preconceived goals of the

government body, the level of involvement of those responsible for implementation, and the degree to which the exercise is approached with a mind open to change.

To meet what is assumed to be the same level on both the IAP2 spectrum and Arnstein's Ladder would require a specific series of events and processes surrounding application of the citizen advisory committee. In practice theory parlance (as defined by Shove et al., 2012), Arnstein's Ladder would require the citizen advisory committee be assessed by looking at the surrounding cultural meanings, and the skills of each of the actors, as well as the procedural form (material) of its application that is examined by the IAP2 spectrum.

There are of course some checks in place to ensure that the IAP2 spectrum is not used to justify poor processes, and the promise and goal statements help to illustrate intended outcomes, but in essence, when judging the success of a tool, process, or event, the IAP2 spectrum is primarily reliant upon the demonstration of the activity taking place, while Arnstein's Ladder supports a more holistic focus on the outcomes in the context of the broader socio-technical system.

The importance of results from consultation and co-creation processes being applied is well established, with Ackoff (1974) and many others since (see Burck et al. (2014) for examples) pointing to the need for public engagement to be evaluated through the degree to which it shapes an overall process. In practice, this would require a significant re-thinking of the planning approach for many co-creation processes to allow these processes to be planned based on the intended outcomes of participation, rather than intended processes (Burck et al., 2014). This distinction is subtle, but requires the consideration of how the information gathered will be utilised and acted upon as well as how it will be gathered.

The 6 principles of engagement currently used by the South Australian Government are

1. We know why we are engaging
2. We know who to engage
3. We know the history
4. We start together
5. We are genuine
6. We are relevant and engaging. (Government of South Australia, 2016a)

Beneath these principles are a series of sub-principles that describe how they can be enacted. However, beyond a recommendation to plan how impact will be measured as a part of principle 1, and to close the feedback loop as a part of principle 5, these sub-principles are focussed only on the organisation prior to an engagement activity.

Critical pragmatism

In order to incorporate the reflective aspects of Arnstein's Ladder and augment the focus of consultation and co-creation with a focus on outcomes as well as processes, a reorienting of these types of policies is required. One of the ways in which the misalignment between intent and outcomes may be addressed is through a shift from rationalism to critical pragmatism. A rationalist approach plans a consultation strategy primarily by focussing on the minimisation of risk. In contrast, an approach of critical pragmatism focusses on desired outcomes. As Forester describes, "[Critical pragmatism] involves a concern with *consequences* (and what is consequential, what has value and significance) rather than a concern with *intentions* (or hopes or promises)" (Forester, 2013: 8). He goes on to define that critical pragmatism:

1. attends to both processes and outcomes
2. builds on a pragmatic approach by suggesting not only that presented 'knowledge' may be incorrect, but also that we should anticipate its falsehood and plan accordingly
3. feeds an understanding of the difference between dialogue, debate, and negotiation, and between facilitating, moderating and mediating
4. mediates conflict through similarity rather than difference, and
5. focusses on imagination rather than scepticism (Forester, 2013).

This has some similarities with backcasting theories (Robinson, 1982; 2003), but while backcasting focusses on establishing the steps required to achieve a future goal, critical pragmatism allows a little more freedom whereby the process can be more reflexive and open to changes in direction in line with an iterative design-led process.

In an earlier series of publications, Laws & Forester describe the goal of critical pragmatism as being to move

from a deconstructive scepticism towards a reconstructive imagination, from presumptions of impossibility to explorations of possibility, from a more passive listening to joint, co-generated problem-solving, from any premise of narrow, zero-sum adversarial bargaining to creative and expansive, joint-gain orientated negotiations satisfying the interests of diverse publics (Laws and Forester, 2007a; Laws and Forester, 2007b).

This suggests a more complex transition that is again more in line with practice theory than an Antecedent Behaviour Consequence (ABC) model of action (Shove, 2010).

This added complexity brings to the fore the importance of rethinking not only the purpose of a consultative process, but also the role of the actors involved in facilitating the process. A case published in Forester et al. (2011) illustrates the result of a shift from rationalism to critical pragmatism in a difficult and politically contentious consultation in Canada. In this case, a Mayor had proposed a militant approach to a public consultation event with a significant and obvious police presence to counter what was expected to be the presentation of a range of anger, fear, and expressions of powerlessness. By instead taking a critical pragmatist's approach and concentrating on the possible outcomes of the meeting as the driving force behind its organisation, an architect and planner facilitated a cooperative approach through which a mutual understanding of the issues was reached (Forester et al., 2011).

The strategies used in this case are echoed by Sennett (2012) who highlights the importance of dialogic conversation as a starting place in conflict resolution because of its ability to help build a shared understanding of the points of view each party holds through respectful exchange and active listening. Once this mutual understanding has been reached, a dialectic exchange can search for shared perspectives as a way of fostering positive cooperation (Sennett, 2012). Ultimately, in this example the city governments changed its mind on the issue (Forester et al., 2011).

The shift from a 'Decide–Announce–Defend' model of consultation, to a co-creation or cooperative approach would require architects, planners and those in positions of authority to take on a very different role, and to accept that their preconceptions may not in fact be correct. The European Commission (2009) called for design to transition from being an industry, into an integrated part of innovation processes, while the World Economic Forum (2016) also suggest that the ability to facilitate co-creation processes will become a critical competency for Architects, planners, city officials, and other practitioners in the built environment. Similarly, Tan (2010) suggests the roles of researcher, strategist and facilitator are added to the remit of 'the designer', while Manzini and Coad (2015), Nyström et al. (2014), and Sanders and Stappers (2008) all also describe similar new roles for designers to take on in co-creation processes. The addition of these new roles however, can bring new tensions between the role of the designer as a facilitator or mediator and their role in the development and realisation of concrete design ideas that must be addressed (Frediani, 2016).

Rethinking the ambitions and purpose of consultation

The complex and holistic nature of changes that would be required in the broader socio-technical system to facilitate outcome focussed consultation may go some way toward explaining why consultation processes in the Australian urban context are typically used to grant legitimacy to projects, or to help sell them to the public (London and Cadman, 2009; Gallagher et al., 2015; Schatz and Rogers, 2016). Arnstein's Ladder provides a useful framework for rethinking the ambitions and purpose of consultation, and practice theory may be a useful way of understanding the kinds of systemic changes that would be required in the socio-technical system in order to achieve these ambitions.

The debate about co-creation and community participation in decision making, particularly with regard to the built environment is often centred on the effectiveness of various facilitation tools and techniques (Frankova and Woodcock, 2013; Lozanovska and Xu, 2013; Segelström et al., 2009; De Carli, 2016; Ballon and Schuurman, 2015; Visser et al., 2005). However, while these tools are important parts of the process, the approach to communication and execution of their application is critical in determining their actual success.

ULLs offer an opportunity to test and evaluate a variety of approaches to this challenge, but the existing focus on the IAP2 spectrum as a framework for planning and implementing these approaches, doesn't adequately address the kinds of complex challenges they face. The limitations of this spectrum described in this paper point to a need to rethink the ways in which consultation is both planned and executed, to ensure adequate attention is paid to the outcomes as well as the planning of co-creation and consultation processes. While one approach may be to suggest that the IAP2 spectrum be used for the planning of co-creation or consultation processes and Arnstein's Ladder to evaluate their success, a more appropriate approach may be to augment the IAP2 spectrum with a critical reflection (critically pragmatic) on the desired as well as actual outcomes through Arnstein's Ladder. This would allow the

ULL process to question not only the desired outcomes, but also the systems and procedures that could be put in place to lead to these outcomes.

Conclusion

Governments are increasingly seeking to engage citizens in decision making processes, particularly with relation to the built environment. Current methods for evaluating the performance of co-creation and consultation approaches are based primarily on planning rather than execution, and, when evaluated through both Arnstein's Ladder and the IAP2 spectrum, do not necessarily achieve the kind of participation that may be expected.

There are some significant unresolved issues raised in the literature, particularly in relation to the roles of different actors, and new forms of democratic process, but these continue to be explored through the practice-led approach of ULL.

This paper has suggested that for co-creation and consultation processes to achieve their stated goals, participatory processes should be planned through the lens of critical pragmatism rather than rationalism, directing focus onto outcomes as well as processes, and leaving room for unexpected changes and developments. The use of Arnstein's Ladder alongside the IAP2 spectrum, and the use of a practice theory, rather than ABC lens has been presented as one potential way of achieving this.

References

- Ackoff RL. (1974) Redesigning the future. *New York*: 29.
- Arnstein SR. (1969) A ladder of citizen participation. *Journal of the American Institute of planners* 35: 216-224.
- Australia GoS. (2016a) Principles of Engagement. 2nd Edition ed. Adelaide, South Australia: Government of South Australia.
- Australia LGAoS. (2016b) Community Engagement Framework. 4th Edition ed. Adelaide, South Australia: Local Government Association of South Australia.
- Baccarne B, Logghe S, Veeckman C, et al. (2013) Why collaborate in long-term innovation research? An exploration of user motivations in Living Labs. *EnoLL OpenLivingLab Summer School 2013*: 49-51.
- Ballon P and Schuurman D. (2015) Living labs: concepts, tools and cases.
- Binder T, Brandt E, Ehn P, et al. (2015) Democratic design experiments: between parliament and laboratory. *CoDesign* 11: 152-165.
- Botero A and Hyysalo S. (2013) Ageing together: Steps towards evolutionary co-design in everyday practices. *CoDesign* 9: 37-54.
- Buchanan R. (1992) Wicked problems in design thinking. *Design issues* 8: 5-21.
- Burck B, R ger S, Frick P, et al. (2014) Facilitating a collaborative space. In: Muff K (ed) *The Collaboratory*. Sheffield, UK: Greenleaf Publishing, 47-57.
- Commission E. (2009) Design as a driver of user-centred innovation. Brussels: European Commission.
- Cross N. (1972) *Design participation: proceedings of the Design Research Society's conference, Manchester, September 1971*: Academy Editions.
- De Carli B. (2016) Micro-resilience and justice: co-producing narratives of change. *Building Research & Information* 44: 775-788.
- Department of Sustainability and Environment GoV. (2015) *Effective Engagement Toolkit*. Available at: <http://www.dse.vic.gov.au/effective-engagement/toolkit>.
- Forester J. (2013) On the theory and practice of critical pragmatism: Deliberative practice and creative negotiations. *Planning theory* 12: 5-22.
- Forester J, Susskind L, Umemoto K, et al. (2011) Learning from practice in the face of conflict and integrating technical expertise with participatory planning: Critical commentaries on the practice of planner-architect Laurence Sherman mediation and collaboration in architecture and community planning: A profile of Larry Sherman practical elements of facilitative leadership and collaborative problem solving where do collaborative planning instincts come from? Lessons from the field words, bodies, things. *Planning Theory & Practice* 12: 287-310.
- Forum WE. (2016) Harnessing Public-Private Cooperation to Deliver the New Urban Agenda. Geneva: World Economic Forum.
- Frankova K and Woodcock A. (2013) In-situ methods as innovative approaches to effective co-creation of urban public spaces. *EnoLL OpenLivingLab Summer School 2013*: 4-23.
- Frediani AA. (2016) Re-imagining Participatory Design: Reflecting on the ASF-UK Change by Design Methodology. *Design issues* 32: 98-111.
- Gallagher M, Petrova S, Raphaely T, et al. (2015) Collaborative urban planning for low carbon living in Australia: Interim Report. Sydney, Australia: CRC for Low Carbon Living.

- Hyysalo S and Hakkarainen L. (2014) What difference does a living lab make? Comparing two health technology innovation projects. *CoDesign* 10: 191-208.
- Ind N and Coates N. (2013) The meanings of co-creation. *European Business Review* 25: 86-95.
- Krzywoszynska A, Buckley A, Birch H, et al. (2016) Co-producing energy futures: impacts of participatory modelling. *Building Research & Information* 44: 804-815.
- Laws D and Forester J. (2007a) 34 Public Policy Mediation: From Argument to Collaboration. *Handbook of Public Policy Analysis*: 513.
- Laws D and Forester J. (2007b) Learning in practice: Public policy mediation. *Critical policy analysis* 1: 342-370.
- Leminen S, Habib C and Westerlund M. (2015) Living Labs as Innovation Platforms: Key Constructs. *OpenLivingLab Days 2015*. Basaksehir Living Lab and Bahcesehir University, Istanbul, Turkey: European Network of Living Laboratories.
- London KA and Cadman K. (2009) Impact of a fragmented regulatory environment on sustainable urban development design management. *Architectural Engineering and Design Management* 5: 5-23.
- Lozanovska M and Xu L. (2013) Children and university architecture students working together: a pedagogical model of children's participation in architectural design. *CoDesign* 9: 209-229.
- Manzini E and Coad R. (2015) *Design, when everybody designs: An introduction to design for social innovation*: mit press.
- Manzini E and Rizzo F. (2011) Small projects/large changes: Participatory design as an open participated process. *CoDesign* 7: 199-215.
- McCormick and Hartmann. (2017) *The Emerging Landscape of Urban Living Labs: Characteristics, Practices and Examples*. Lund University.
- McGinley T and Nakata K. (2012) A participatory design approach to the wicked problem of designing sustainable communities. *The TSBE EngD Conference*.
- Munthe-Kaas P and Hoffmann B. (2016) Democratic design experiments in urban planning—navigational practices and compositionist design. *CoDesign*: 1-15.
- Nyström A-G, Leminen S, Westerlund M, et al. (2014) Actor roles and role patterns influencing innovation in living labs. *Industrial Marketing Management* 43: 483-495.
- Petrescu D, Petcou C and Baibarac C. (2016) Co-producing commons-based resilience: lessons from R-Urban. *Building Research & Information*: 1-20.
- Pieter Ballon MDS, Dr, Mastelic J, Sahakian M, et al. (2015) How to keep a living lab alive? *info* 17: 12-25.
- Robinson J. (2003) Future subjunctive: backcasting as social learning. *Futures* 35: 839-856.
- Robinson JB. (1982) Energy backcasting A proposed method of policy analysis. *Energy policy* 10: 337-344.
- Salter R and White S. (2013) Collaborative research in the real world: review of living laboratories.
- Sanders EB-N and Stappers PJ. (2008) Co-creation and the new landscapes of design. *Co-design* 4: 5-18.
- Sauer S. (2014) *User innovativeness in Living Laboratories*. University of Twente.
- Schatz L and Rogers D. (2016) Participatory, technocratic and neoliberal planning: an untenable planning governance ménage à trois. *Australian Planner* 53: 37-45.
- Schön D. (1983) *The reflective practitioner*. New York: Basic Books.
- Schön D. (1987) *Educating the reflective practitioner: Toward a new design for teaching and learning in the professions*: Jossey-Bass.
- Segelström F, Raijmakers B and Holmlid S. (2009) Thinking and doing ethnography in service design. *IASDR, Rigor and Relevance in Design*. Seoul.
- Sennett R. (2012) *Together: The rituals, pleasures and politics of cooperation*: Yale University Press.
- Shove E. (2010) Beyond the ABC: climate change policy and theories of social change. *Environment and planning A* 42: 1273-1285.
- Shove E, Pantzar M and Watson M. (2012) *The dynamics of social practice: Everyday life and how it changes*: Sage publications.
- Szebeko D and Tan L. (2010) Co-designing for Society. *Australasian Medical Journal* 3: 580-590.
- Tan L. (2010) The different roles of the designer and their value. *Billy Blue College of Design, Sydney Australia*: 40-44.
- Together B. (2017) *Engagement Level selection tool*. Adelaide, South Australia: Government of South Australia.
- Visser FS, Stappers PJ, Van der Lugt R, et al. (2005) Contextmapping: experiences from practice. *CoDesign* 1: 119-149.