Social Innovation Systems for Building Resilient Communities

PhD Thesis

by

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July 2020

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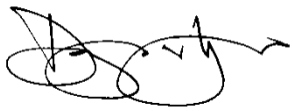
This thesis is the result of the author's original research. It has been composed by the author and has not been previously submitted for examination, which has led to the award of a degree.

Signed: 

Date: 20-07-2020.

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Abstract

A global investigation into social innovation systems for building resilient communities, this doctoral thesis introduces a hypothesis that social innovation in the built environment occurs over phases of network, framework and architecture. The literature review links social innovation to sustainability and resilience science, and looks at the emergence of social innovation in response to social, economic and environmental challenges. Case studies and ethnographic methods are used to probe the barriers and enablers of social innovation in each of the above phases. The case studies were selected as examples of networked approaches to urban design. Tools that enable participation in planning are examined, alongside more bottom up tactics that promote community self-management of common resources. The final phase of research looks at housing in particular as a way to promote inclusive growth and spatial equality for communities, facing the effects of neoliberal policy and planning. The study represents a new approach to research in architecture that takes an international perspective in the analysis of phenomena such as transdisciplinarity, insurgent activism and politics in space. Findings suggest that new narratives – platforms and spaces - in architecture are required to support open decision-making and the creation of public value in communities. Above all, this means leaning on new knowledge from diverse disciplines such as anthropology, system sciences and technology to further a deeper understanding of the dynamics that allow social innovation to thrive in an ecology for cities.

Publications and knowledge exchange activities

1. Publications

Horgan, D. & Dimitrijevic, B., 2018. Social innovation systems for building resilient communities, *Urban Science. 2, 1, 18 p., 13.*

Horgan, D. and Dimitrijevic, B., 2018. Socially innovative frameworks for socioeconomic resilience in urban design, In: Elsharkawy, H., Zahiri, S. & Clough, J. (eds.) *International Conference for Sustainable Design of the Built Environment SDBE 2018: Proceedings*. London, p. 1033-1044, 12 p.

Horgan, D. & Dimitrijevic, B., 2019. Frameworks for citizens participation in planning: From conversational to smart tools*, Sustainable Cities and Society,* Volume 48, 101550

2. Knowledge Exchange Activities

Horgan, D., 2017. From the Bottom-up – Lessons from Christchurch, New Zealand, *Social Innovation Systems for Building Resilient Communities,* Symposium at the Department of Architecture, University of Strathclyde, 16 June.

Horgan, D., 2018. Frameworks for inclusive growth in marginalised communities, *Frameworks for Social Innovation in Planning for Built Environment*, Symposium at the Department of Architecture, University of Strathclyde, 18 May.

Horgan, D., 2019. Housing occupation as a means for attaining spatial rights, *Architecture(s) for Resilience,* Symposium at the Department of Architecture, University of Strathclyde, 3 May.

Horgan, D., 2019. Social innovation systems for building resilient communities*, 2nd Colloquium of the research cluster Socially Progressive Innovation and Entrepreneurship*, University of Strathclyde, 7 June.

Horgan, D., 2019. Ecological frameworks as a strategy for social innovation in the built environment, *2019 IGU Urban Geography Commission Annual Meeting*, Institute of Geography and Spatial Planning, University of Luxembourg, 7 August.

Horgan, D., 2019. Architecture(s) for Resilience, *16th Annual International Conference of the Architectural Humanities Research Association*, University of Dundee, 23 November.

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Acknowledgements

Za Branku.

The author would like to thank supervisor Prof. Branka Dimitrijević, Department of Architecture, for her guidance and patience, without whom this study would not have been possible. I sincerely appreciate both your meticiulousness and guidance. Thanks also to family and friends for their continued help throughout. Last but not least, thank you Wellington for your enduring support and encouragement.

Go raibh maith agaibh.

PhD studentship has been provided by the University of Strathclyde and Building Research Establishment Trust. The author would like to sincerely thank these parties for their support throughout. Finally, the author would like to thank interviewees who participated in ethnographic research across all the case studies.

Glossary of terms

AG	*Aktivniy Grazhdanin*
ANT	Actor-Network-Theory
ARIES	*Agência Recife para Inovação e Estratégia*
BIM	Building Information Modelling
BRE	The Building Research Establishment
BUD	Bronzeville Urban Development
CDTs	Community Development Trusts
CeSAR	Recife Center for Advanced Studies and Systems
DDCF	Dublin Docklands Cultural Forum
DOCF	Docklands Oversight and Consultative Forum
FESTA	Festival of Transitional Architecture
ICLEI	The Local Governments for Sustainability network
IIPP	The Institute for Innovation and Public Purpose
IIT	Illinois Institute of Technology
INSS	Brazilian Social Security Institute
JPA	Joint Problematisation Approach
LDP	Local Development Plan
MCMV	*Minha Casa, Minha Vida*
MEL	*Métropole Européenne de Lille*
MP	*Ministarstvo Prostora*
NAM	Non-Aligned Movement
NDB	*Ne davimo Beograd*
OMA	Office for Metropolitan Architecture
PARC	*Protection Aménagement Réappropriation Collective*
PAS	Planning Aid Scotland
RIBA	Royal Institute of British Architects
SDGs	Sustainable Development Goals
SFRY	Socialist Federal Republic of Yugoslavia

SQ Survey Questionnaire

USP University of São Paulo

UCL University College London

UN United Nations

UNDP United Nations Development Programme

UNECE United Nations Economic Commission for Europe

ZAC Concerted Development Area

Chapter 1: Introduction

This chapter outlines the research motivation, problem statement, research questions, research aim and objectives, research methodology and thesis structure.

1.1. Research motivation

This doctoral study is borne out of a desire to bring the study and practice of architecture closer to the actual needs of society through its application in the process of social innovation. Social innovation is a process by which communities can build resilience, and gain capacities to support responses to social, economic and environmental shocks. This document follows a research investigation that considers the role of social innovation in bringing about more sustainable development, looking at a number of instances from around the world.

The motivation behind doctoral research is primarily inspired by the researcher's recent professional history, having spent a number of years on hiatus from architecture working in a new field of public service innovation. In the wake of the 2008 financial crash, this researcher began to question the role the construction industry had played in a sub-prime mortgage crisis and whether architecture was fulfilling its duty of care to society. The discipline had once concerned itself with building and dwelling, with providing shelter to humanity, but as capitalism has commodified the built environment, the ability of architecture to respond to the human need is under question. Disillusioned with the state of play in the profession, and with a growing gulf between the profit-seeking ambitions of property developers and the communities they serve, the researcher rearticulated their skillset toward public service design, consulting with local authorities on bottom-up change and transformation. It was during this period, working with service providers on the front line of communities, that it became apparent how the built environment professions were no longer responding to the social need. Stripped of resources in the wake of the financial crash, these communities were now seeking out innovative ways to deliver services to the public, based on collaboration, peer-to-peer technologies and the sharing economy. Neoliberalism, which favours a reduced role for the state, does in fact support devolution of responsibility for public services (including planning and placemaking) to communities.

During the recession that followed 2008, the popularity of social innovation and user-centred design grew exponentially at the grass-roots as an agile response to the growing public

service deficit, supported in the UK by the policies of Big Society (Blyth et al., 2011). The speed of this change was particularly evident in the UK, as a long-standing Labour administration was replaced by a Conservative – Liberal Democrat coalition. Cash-strapped local governments began to redefine themselves in this decade as enablers or platforms for social services, opening up not only service delivery, but planning and decision-making to community actors and citizens (Yee et al., 2013; Julier and Kimbell, 2019). In the decade since, service innovation in the public sector has leaned heavily on participatory co-design – a process which as itself ebbed and flowed in popularity in architecture since the 1970s (Jenkins and Forsyth, 2009). Participatory design in the information age has benefited from communications technologies that provide for more robust feedback loops and agile development practices (Cox et al., 2015). New spaces for open collaboration and coworking – such as Impact Hub Birmingham - sprouted up in vacant and abandoned buildings, as new live-work patterns were emerging in society, alongside new ways in which to programme, use and share spatial assets (Long and Naudin, 2019). Elsewhere changes brought about in this era of technological innovation, have diminished the power yielded by traditional gatekeepers of the city and opened up decision making (Björgvinsson et al., 2010). *Meanwhile Space*, and similar movements to appropriate underused buildings, have seen communities seek to take control of their services, spaces and places (Moore-Cherry, 2017).

The researcher became part of that most recent wave of social innovation at the start of the decade - consulting with local authorities on social and service design. This provoked a deeper understanding of spatial inequalities, and of the relationship between society and architecture. Close-working with other professionals on community planning in areas such as housing and child protection as a consultant with FutureGov, allowed the research to understand how distinct parts of society are working towards the same goals - to improve quality of life in our cities and settlements (Cox et al., 2015). Part of the researcher's role at this time was to facilitate codesign sessions with communities and frontline service workers seeking to drive greater efficiencies and value-for-money across the public sector as part of the Patchwork project in the UK (Yee and White, 2016). This practice was informed by place-based thinking and holistic frameworks that recognise the multi-faceted nature of community development, and the need to make connections across service areas. The stark inequalities

within communities and their manifestation in space became apparent to the researcher during this time.

While other sectors were collaborating toward mutual outcomes for citizens and place, the discipline of architecture felt absent. It could be argued that in the wake of the financial crisis architecture lifted the proverbial drawbridge, became more inward looking and introspective, putting the needs of the profession above the needs of society. Yet at the same time, while the profession was neglecting its social role, many of the individuals engaging with communities at the grass roots and directing social innovation had a background or education in architecture. It became clear that the profession itself needed to engage more directly with this new practice of social innovation, and task itself again with community practice. This would mean developing pathways toward social innovation within architectural education in order to take up new roles and collaboration in increasingly more diverse design teams. The spatial context of social transformation – and interconnectivity between themes such as isolation, housing and development – show that professionally, architecture needs to retake its seat at the table of decision-making, and that community planning and built environment planning cannot be done in isolation from each other. For architecture – as both theory and a practice – this will mean understanding the full potential of the profession to meet the changing needs of society, and how best it might contribute, therefore, to social innovation (away from complicity in (re)producing inequality).

This doctoral study is therefore primarily concerned with understanding the phases of social innovation as a process within the built environment, and how architecture may contribute to this process.

1.2. Problem Statement

Context: Impacts of the 2008 economic crisis on communities

When doctoral research began in 2016, the world was still reeling from the shocks of a global financial crisis in 2008, which had reverberations for communities across the world. This backdrop provided an important context for study, given that the impacts of globalisation and the failures of western capitalism were revealing stark spatial inequalities across the globe, not limited to one region or sector. Years of developer-led, speculative development have resulted

in displacement and isolation for many communities, who seek ways in which they can manage their own resources, looking to become self-sufficient.

1.2.1. Lack of comprehensive understanding of social innovation

As resources decrease and social, economic and environmental shocks threaten the resilience of communities, the practice of social innovation has emerged as a strategy for developing sustainable solutions to seemingly intractable problems. The growth of social innovation is set against the background of great leaps in technological innovation – namely, the growth of Web2.0 and other technologies bringing people closer together in new networks, stakeholder ecosystems and communities of practice. The problem is that not enough is known about social innovation in the built environment – how it develops, what decision-making tools are used in the process and what outcomes could be evidenced.

1.2.2. The lack of engagement of architects in social innovation

Historically, problem solving in cities has been the domain of the architect, yet recent contributions have only made spatial inequalities starker. Assuming duty of care, architects need to employ their unique skillset for the betterment of society, yet a knowledge gap exists around how best to do this. Having spent a number of years outside of the profession, the need for a more integrated design approach - working toward more holistic spatial (and social) outcomes - became clear to the researcher. The understanding was that, in the pursuit of social transformation, spatial planning and community planning cannot be divorced, and that in order to build resilience - place-based collaboration would be necessary. Such insight from practice encouraged the researcher to look at this subject in greater detail, in order to understand how more network approaches to planning could impact better outcomes for community resilience – and collect evidence of same.

After working in the community planning area on developing new public services, the researcher identified a need for architecture to make better and more coherent connections to other (more innovative) knowledge areas, namely technology and the social sciences. Going forward, urban governance will require a host of skills that are not currently well understood - or accepted – many of which can be provided by architecture profession. New ways of doing things in other areas - such as agile development processes - can inform traditional skills of the architect, such as prototyping, modelling and design management. As the nature of planning

is transformed, architecture as a discipline is currently failing to fully communicate its value to society. The author has identified a requirement for new knowledge to connect architecture into a more interdisciplinary and transdisciplinary context for both research and practice.

1.3 Hypothesis

The research hypothesis is that social innovation relies on the development of community networks and frameworks for designing architecture (solutions) that address various environmental, social and economic disruptions.

1.4 Research questions

1.4.1 How are community networks for social innovations established?

1.4.2 What frameworks are used to support community engagement in developing solutions to the problems that affect them?

1.4.3 What architectures (solutions) are emerging through social innovation?

1.4.4 What are the key aspects for successful outcomes of social innovation?

1.4.5 What is the role of architects in social innovation related to the built environment?

1.5 Research aim

The research aim is to identify key factors that make social innovations successful when addressing environmental, social and economic disruptions that affect communities and their built environment by increasing understanding of social networks, decision-supporting frameworks and emerging solutions in different contexts across the world.

1.6 Research objectives

1.6.1 Increase understanding of how community networks for social innovations are established and of key factors that enable their establishment

1.6.2 Increase understanding of the effectiveness of different frameworks used to support community engagement in developing solutions to the problems that affect them.

1.6.3 Increase understanding of architectures (solutions) emerging through social innovation, barriers to their deployment and opportunities for success

1.6.4 Identify key aspects for successful outcomes of social innovation

Increase understanding of the role of architects in social innovation related to the built environment and routes to engagement with social innovation networks to develop decision-making frameworks and design solutions.

1.7 Research methodology

1.7.1. Introduction

In the past, the discipline of architecture has struggled with the practice of research, owing to the multiple interpretations of what constitutes research in architecture - which can be as varied as the discipline itself (Lucas, 2016). Nevertheless, research in the discipline has developed around the study of spatial production in the built environment including the social role of architecture and its impact on human behaviour (Lucas, 2016). In a book on *Research Methods for Architecture*, Lucas (2016) places the architecture discipline among the humanities, a broad research area with a well-defined set of practices and research methodologies. In doing so, Lucas (2016) highlights the cross-disciplinary nature of research in architecture, explaining its relationship to anthropology and the social sciences. Anthropology is concerned with how we live and dwell, and offers ethnographic methods for bringing forward different perspectives in the study of spatial production (Lucas, 2016). Within the discipline of architecture, it is crucial that we build upon ethnographic methods in order to develop a research practice that is rigorous enough to support evidence-based decision-making and policy innovation. For this research, an ethnographic approach was important in bringing revealed narratives to the surface across the case studies, demonstrating both the nuance of particular scenarios, and the global nature of societal challenges. Following an established research methodology in architecture, the researcher selected case studies to explore social innovation developed to address social, economic and environmental shocks to the communities.

Diagram A describes the research methodology framework indicating the phases of research, network; framework and architecture, that correspond with the phases presented in the hypothesis. For at each stage of the doctoral study, research questions lead into objectives, which are supported by literature review and case studies. For the network stage, literature review concentrated on understanding the process of social innovation, and how networks are established in response to a need within the community. This led on to the framework stage, seeking to understand transdisciplinary approaches to sustainable development.

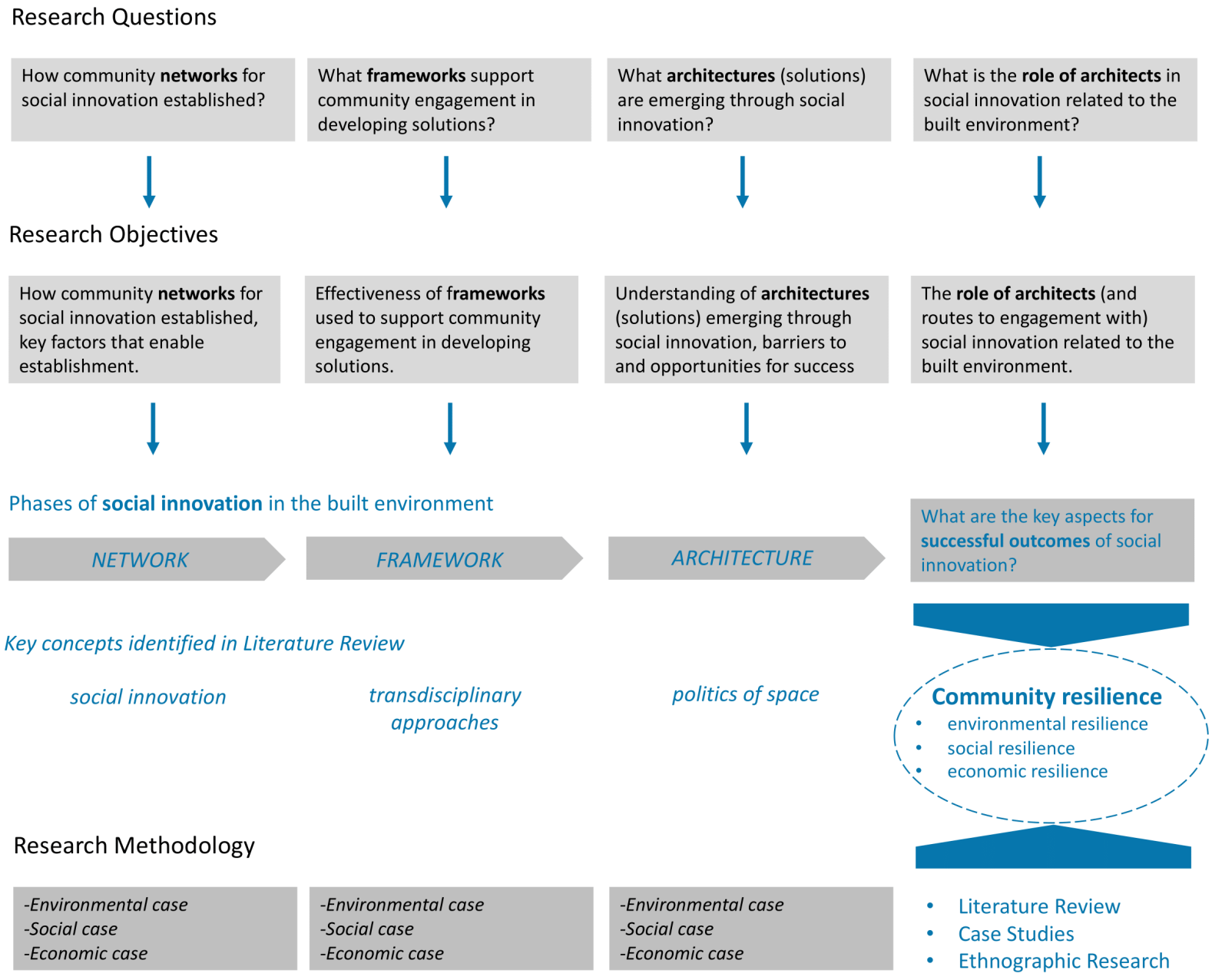


Diagram A: Research Methodology Framework

This in turn informed literature review at the architecture stage, mapping the apparent challenges to realising sustainable socially innovative spatial outcomes, within rigid neoliberal governance models – the politics of space. Ethnographic research was conducted with communities in order to generate insights in each case study, interrogating themes identified across stages of literature review. By structuring research methodology in this way, themes that are identified in early research are developed and analysed again in each subsequent stage. Choosing an environmental, social and economic case for each stage allowed for coherent narratives to be traced at different stages in the process of social innovation. Ultimately the core themes of governance, ownership and participation are present across all cases studies, as indeed the concern that much decision-making in the built environment is political, and that planning is often influenced by particular values and belief systems. Community resilience - which is reliant on environmental, social and economic resilience - was explored early on in the research, and in literature review continued across all phases to understand how it may be produced through the process of social innovation. Equally, researching the role of the architect in phases of social innovation was something that was looked at again and again, in both desk research and ethnographic studies. The diagram shows the relationship between social innovation and community resilience, and how concepts such as sustainability help provide a framework, and common purpose among varied stakeholders with different socio-spatial ambitions.

While not explicit in terms of the research approach taken, feedback loops emerged between case studies - meaning that for each subsequent case study, interview questions became more targeted around themes and less general. Such feedback loops meant that across the doctoral study, an iterative literature review - set against the broad phases of *network*, *framework* and *architecture* - continually introduced new theory to support interpretation of action research findings. In cases were ethnographic investigation was less important to the study, the literature review became more important - such as in the case of Belgrade - which informed the drafting of a survey questionnaire included to supplement interviews. Transdisciplinarity has been important to inform both the design of research questions - not delineated by the boundaries of traditional architectural discourse - and the analysis and interpretation of findings. While there is considerable debate within architecture as to its societal role, researchers are becoming increasingly conscious of the need to work closer with other disciplines to understand the dynamics of spatial production and the impacts

on communities (Palmås and von Busch, 2015). In translating research findings, it must be acknowledged that selections have been made in particular around emerging themes that are common across all the cases. In fact, in response to Hirsch (2019) and others call for research that is grounded in real-life, the researcher has refined interview questions at each stage in response to developing narratives around participation, ownership and governance.

1.7.2 Ethnographic research methods

Lucas's (2016) book on research methods presents a good account of how architectural research has evolved to handle the complexity of the human settlement (Lucas, 2016). The book emphasises the importance of architectural history in offering prototypes, *"a catalogue of tried and tested responses to problems, subject to adaptation to new contexts and scenarios"* (Lucas, 2016:9). It explains how 'architectural social sciences' offer a host of methodologies that can illuminate our understanding of how people use space, and its role in daily life - allowing new knowledge to come to the fore, that may challenge *"overly deterministic approaches to design*" (Lucas, 2016:15). Lucas (2016:15) reminds us that architecture must *"serve the needs of people"*, and that identities are imagined through society's engagement with the constructed world. Like anthropology, philosophy is another social science that can inform research in architecture, one that promotes a critical examination of what is, why it is so, and what is possible (Lucas, 2016).

Using ethnographic research methods, the researcher seeks to position the methodological approach as a bridge between architectural research – often found to be too general - and the social sciences - noted for methods overly concerned with detail (Lucas, 2016). For socially engaged architectural researchers, the social sciences offer a broad set of ideas to the study of urban settlements that can be applied in multiple situations. Being focused on responding to diverse social needs, the study of social innovation in the built environment needs to be flexible enough to accommodate a suite of research methodologies, general and focused at the same time. As an early carer academic with an interest in transdiciplinarity, the researcher is conscious that methods in anthropology can get bogged down by (taking) a narrow perspective - becoming too embedded in very specific ethnographic studies. While deep, this may ultimately provide little in the way of transferable insights – making *"fewer assumptions about the nature of our occupation of space"* (Lucas, 2016:15). Architectural research on the other hand, can work at a number of scales, and relies heavily on

case studies to generate insights - making links across geographies, context and scenarios – to identify commonalities (Lucas, 2016).

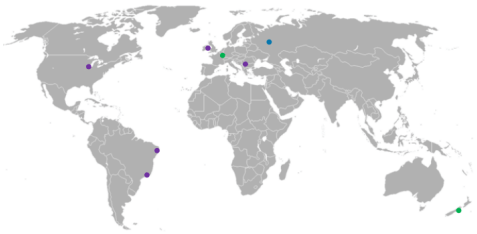
Almost two decades ago, the researcher was introduced to ethnographic tools while researching the impact of the Olympic Games on communities in East London as part of their Part II in Architecture. At the time, engagement-led or participatory approaches to urban design were becoming more common for socio-spatial analysis. The researcher further developed these skills when researching their final thesis with the homeless in London, and subsequently in practice - working in architecture and on user-centred design propositions for the public sector. In the years since, ethnographic approaches had yet to become common-place in architecture research, remaining at the periphery of urban research. Writing in response to Kullmann's (2019) paper on methods of socio-spatial analysis in urban design, Hirsch (2019) laments the lack of progress in architecture in comparison to other design industries in the use of qualitative and quantitative ethnographic approaches (Hirsch, 2019). This confirms the direct experience of the researcher who worked for a number of years in the technology sector while on a hiatus from architecture. Hirsch (2019:184) situates the architect "*as critical ethnographer who conducts active research in the field*", challenging assumptions about power relations in the production of space. Hirsch (2019) follows Madison's (2011:5) view that the study of everyday acts allows the research to move from analysis to imagining *"What could be?"*. Hirsch (2019) calls for research methods in architecture that rely less on big-data and more on anthropology and experimentation.

As a research methodology, ethnography is used by a wide range of disciplines, but is still peripheral in the research of architecture (Lucas, 2016). It has great potential however, to help diagnose the root cause of the many challenges in urban settlements today - particularly given the types of issues facing the communities studied in this thesis. Ethnographic research is common in fields such as informatics, where engaging users in the design process is important (Bilandzic and Venable, 2011). In architecture, this research approach allows for the collection of tacit knowledge from the grass-roots, informing greatly on the context being examined. In an account of why ethnography matters in urban research Pardo and Prato (2018) explain that ethnography provides a tool for comparison of complex, rapidly-changing settlements (Pardo and Prato, 2018). For them, the urban ecology model that emerged from the Chicago School promotes a qualitative approach to the study of cities (Pardo and Prato, 2018). They write that the *"theoretical insights that have emerged from urban ethnography*

are becoming drivers for disciplinary innovation" (Pardo and Prato, 2018:7). All too often a reading of the real-world context is absent in the plans and strategies of neoliberal development. Ethnography - like anthropology - allows for multiple narratives to emerge, from the many different ways in which humans live their lives (Lucas, 2016). Moulaert and MacCallum (2019:92) highlight the diversity of relationships that provide the basis of a framework for action research on social innovation, offering three key principles - namely that *"social innovation is highly contingent of its socio-political, spatial and temporal context; that the conditions for enabling transformative social innovation can be better understood in light of lessons from the past; and that plurality in the understanding of the dimensions, practices and processes of social innovation should always be part of the process leading to a workable analytical framework".* Action research is important in order to surface new narratives and positions from overlooked sections of the community, and calls for deeper engagement with stakeholders. Diagram B describes how action research was conducted over the research phases of network, framework and architecture, and is elaborated on below. Further details pertaining to - location of action research, number of informants etc. – related to the specific characteristics of the community engaged in each case, can be found in the next section which describes the case studies, and in Appendix 1.

The diagram maps the global spread of case studies, indicating the type of ethnographic method employed in each context – from interviews and shadowing, to cohabitation with stakeholders. The timeline indicates how network building through professional projects identified early case studies, and the iterative nature of the research building up to and during the period of doctoral research. It begins at the point that the researcher completed their (RIBA) Part II in architecture, with a design project informed by participatory workshops with the homeless. These engagement skills were further refined through practice in architecture and subsequently in public service design, where design briefs are built from insights generated from user journeys, narratives and accounts. During facilitated design conversations or interviews, the researcher records tacit knowledge graphically in logbooks, recording discussion on a digital device. Interviews are written up afterwards for later analysis, identifying key themes as they emerge in discourse. This was the methodology used for the case studies presented in this thesis, beginning with the network phase of research. Prior to commencement of the PhD, the researcher visited Porto Digital as part of a conference delegation, to understand the network of spaces being transformed to accommodate the

Global spread of case studies:



Core themes emerging across global investigation:

Governance	Ownership	Participation

Research Phases

Need (shock)

Environmental

Economic

Social

Literature Review.

- Desk research into Gaelic Ireland

Network >>

Framework >>

Architecture

Interviews with network in Christchurch

Interviews with associations, stakeholders in Lille

Interviews and shadowing at Porto Digital in Recife

Interviews with stakeholders in Chicago

Participation at occupations in São Paulo

Shadowing and facilitation with stakeholders in Dublin

Interviews with citizens and local government in Moscow

Interviews with academics in Belgrade

11/2016 04/2017 06/2018 01/2019

03/2016 04/2018 10/2019

Case Study matrix.

Themes emerging over phases in iterative literature review:

Transdisciplinary | *Politics of space* | *Role of architect*

YEAR 1 YEAR 2 YEAR 3

Network *Framework* *Architecture*

Identification of cases, based on **need** (shock): through existing network connections

Ethnographic Research Period

Qualitative research conducted in-situ with communities:

Network building

Consulting

Study

Establish links with urban design community in Moscow

Identify agile development processes in technology development

Establish links with social innovators in Sao Paulo

Participatory Design thesis

Architectural practice, **Moscow**

Consulting on public service design, **London**

Consulting on innovation, **São Paulo**

Strategic consulting for **Dublin Docklands Cultural Forum**

Collaboration with **Western Balkan** partners

Graduation, **PGDip Architecture, (RIBA II)**

Graduation, **MDes Service Design Innovation**

Commencement of doctoral study, **PhD Architecture**

Erasmus study at the University of Belgrade

Completion of doctoral study, **PhD Architecture**

Timeline.

2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 **2016** 2017 2018 2019 **2020** 2021

Diagram B: Ethnographic Research Methods

burgeoning start-up ecosystem. Some months later the research returned to spend time shadowing roles in the organisation over two days, interviewing the team on the development of the network and approaches to scaling innovation – meeting also with those working on strategic spatial development in the city and region.

An understanding of network dynamics from Recife, helped the researcher to design questions around networks for later sessions with stakeholders in Christchurch and Dublin. Also prior to commencement of doctoral study, the researcher began working with the Dublin Docklands Cultural Forum, to help the network shape a strategy for engaging key stakeholders and support network development. Co-design brainstorming sessions facilitated by the researcher helped the network to understand the barriers to their success in establishing the network, and identify potential mitigations. Insights generated in these sessions encouraged the researcher to design doctoral research around phases, and structure literature review to run parallel to investigation in-situ with communities. When it came to conducting research with the eco-system in Christchurch, this was planned to coincide with a planned meeting of local social innovators. The researcher designed an exercise to map socially innovative network activities within a dedicated space at a Design for Social Innovation symposium, and hold informal conversations with stakeholders. The event took place over three days in a newly built school in the city, and included local, national and international stakeholders who had performed pivotal roles in the post-earthquake regeneration. This mapping was used to identify key individuals and organisations with whom to have more detailed interviews, and allowed the researcher to collect informal qualitative data around the shape of collaboration. The researcher was introduced to other key organisations at the event, who they were able to visit afterwards and interview. It was through engagement with an attendee at that event that the researcher was introduced to the community in Chicago, the first case of the framework phase.

During time spent living with the leaders of Bronzeville Urban Development (BUD) in Chicago, the researher again used ethnographic methodology of shadowing and observing network organisation in close quarters, being able to conduct informal qualitative conversations at home to understand intangible dynamics and motivation. Over the first few days the researcher was brought on various tours of community projects, and met with key changemakers within the network. More detailed meetings with board-members were programmed later in the week, around specific themes emerging through observation and

dérive. Being embedded within the community of Bronzeville helped the researcher understand much more about the community, than may have been shared in public workshops that were planned but never took place. Similarly, while participatory workshops were planned with stakeholders in Moscow, this was deemed to be too political in practice.

The ability to spend a long time living in the company of citizens, key stakeholders and public influencers allowed the research to conduct lengthy qualitative discussions - that offset the pronouncements made in more formal interviews with public servants. The intended workshops and focus groups - to be facilitated by a local academic partner - were too complex to arrange, and it was found that longer one-on-one sessions with key informants would generate better insights. A month-long period spent in Moscow allowed the research to visit homes and neighbourhoods, and witness unequal spatial transformation first-hand. Informants were selected by the researcher through engagement in online groups as opposed to being selected prior by any local academic partner. Interviews were able to take place on park benches and kitchen tables, allowing informants to express their ideas and frustrations more clearly, and gesture towards specific spatial interventions. Speaking with active citizens in neighbourhoods under threat of demolition provided valuable context to data collection. While it was impossible to conduct deep ethnographic study on the past example of Gaelic Ireland, the researcher reached out informally to key academics in the field, and spend time visiting Gaelic settlements in Ireland.

The need to spend time living and participating in the São Paulo occupations was informed by the researcher's previous work with homeless Irish in London, understanding that trust and relationships with key informants is built over time. Having lived in São Paulo on and off for some years, the researcher had established connections to key practitioners that allowed access to the occupations. While again, the researcher had intended to hold participatory mapping exercises in a dedicated space, the busy lives of participants made designing for this difficult. Instead, the researcher again spent lengthy periods shadowing key stakeholders in their work, and having long conversations about their background and experience. Two weeks sharing spaces with stakeholders allowed key insights to be generated through long, detailed exchanges in which the researcher was able to share findings from previous case studies – contextual knowledge of social innovation and organisational tactics – with informants. As with other cases, the researcher recorded audio of their experiences, and graphically in a notebook. This experience crystallised the need for greater activism in

architecture for the researcher, and the importance of deep ethnographic engagement in order to listen to, and bring under-considered positions to the surface.

In the same way, living within an apartment complex designed for self-managing communities in Yugoslavia provided the researcher with deep insights into the impact of political systems on space and place – both in the minutiae of design details and behaviours of neighbours and groups. Living in the *blokovi* helped the researcher develop an informed questionnaire for circulation among academics, and allowed for better informed interviews and literature review. This lived experience was particularly important for the understanding of a political system long since transformed. Finally, the case in Lille was identified through conversations with stakeholders from the former Yugoslavia, who recognised the equitable ambitions behind the opposition to development in that city. While less ethnographic in nature than other data collection, the political nature of the Lille case study again presented some problems in terms of facilitating truly open interviews with stakeholders. While a more traditional methodology of short on-site interviews was used to generate insights in Lille, these were supported by more informal data collection speaking to local residents in their homes. The number of informants and interviews conducted is provided within each case study, in addition to the dates and times in which engagement took place. As is evident in later chapters of this thesis, the narratives collected through ethnographic methods permitted the researcher to allow for community voices to be present in later analysis and interrogation. The researcher's established connections made it easier to set up engagement with stakeholder networks in the majority of the cities studied, allowing time in the field to be dedicated to interviews and observation.

1.7.3 Case studies

Before giving details of research activities for each case, it is important to make clear how outputs from investigation have led to insights. Analysis of research findings in Discussion (Chapter 6) provides a more detailed understanding of how research findings have been interpreted. While still peripheral in architecture, there is lots of debate within the social sciences as to the robustness of findings in ethnographic research. To a certain extent these debates are largely irrelevant to this account of methods, as a critical reflective analysis of findings has been central to this study. Moulaert and MacCallum (2019:112) note that significant progress has been made methodologically within the field through the 'critical

realist approach', which pays *"particular attention to the relationship between the researcher-analyst and the socio-political reality which (s)he is analysing, and… recommending change recipes".* Diagram B shows the evolution of action research over the selected case studies. A timeline provides a background as to when relationships with key stakeholders – gatekeepers to ethnographic investigation with communities – were established based on the environmental, social or economic challenge identified in each case. It begins in 2006, when the researcher completed their (RIBA) Part II in architecture, presenting a design project based on participatory research - with homeless Irish ex-construction workers in London - still very unique in architectural education at the time. Following on from architectural practice in Russia, the researcher pursued a MDes, acquiring skills and understanding related to agile user-centred design processes, and leading to social design practice in the public sector. Later consultancy in Dublin and São Paulo allowed the researcher to build relationships with communities in those cities, and relevant stakeholders. Action research in Christchurch established connections with stakeholders in Chicago, while Erasmus study in Belgrade led to the identification of the Lille case.

The model for verifying research data across all case studies followed the same four step format (influenced by design thinking methodology). The first phase involved desk research and literature review in order to set out a context for ethnographic study and design interview questions. Examples of research questions for each case study are given in Appendix 1. The second phase involved formal semi-structured interviews with identified stakeholders in each case, listening with an ear to the ground. This in turn was supported by a third phase of in-situ observation - shadowing stakeholders and participating in activities, all of which contributed to the fourth phase of dialogue. This final phase involved publishing case studies as soon as possible following action research in order to invite feedback from other academics around the emerging narratives in each case.

Over the course of doctoral study papers have been published in journals such as *Urban Science (MDPI)* and *Sustainable Cities and Communities* (Elsevier), at conferences such as Sustainable Development in the Built Environment (SDBE) 2018, the Urban Commission of the International Geographical Union (IGU) annual meeting 2019, the 16th Annual International Conference of the Architectural Humanities Research Association (AHRA) 2019, and symposia in the Department of Architecture, University of Strathclyde, Glasgow, in 2017, 2018 and 2019. In

effect, the analysis was shaped by the way in which data was collected, while this discursive part of the research - generating discussion - allowed the researcher to get perspective as to the recurring themes and patterns in the research. This is another example of a feedback loop in this research, where the methodology has helped to reveal outcomes - giving an authoritative voice to those who hadn't been heard before. These methods - letting on-the-ground narratives reveal a set of themes which can be clustered through analysis and discourse – offer a rationale for the research approach. Following this, it is envisaged that outcomes from the research - themes and narratives - can produce new knowledge to inform innovation in both policy and practice. Policy areas include those related to themes of governance, ownership and participation. These feedback loops have allowed more focused conversations to happen with stakeholders - particularly in the case of São Paulo and Lille - explicitly building on themes emerging from previous action research to test out ideas in interviews.

The last phase of research which concentrated on architectures – or outcomes of social innovation – coalesced around investigation into social housing, identified as an important response to need within communities. In turn, this led to a deeper analysis, and greater amount of literature review, which explains the rationale for the depth of research – findings and theory - contained in that chapter. Being an ethnographic study, research findings have emerged primarily from qualitative research, meaning that interviews have been the main source for gathering data over the course of doctoral study. It has been incumbent on the researcher to take great care in arranging and conducting these conversations, mindful of the ethics of doing ethnographic research in situations of spatial conflict. In most cases the issues at play were so contentious that informants were reluctant to sign ethics forms, unwilling to be identified for fear of repercussions for their communities. As previously mentioned, the researcher's existing social and professional networks have been instrumental in gaining access to gatekeepers and the trust of stakeholders interviewed. Modern social media and information and communication technologies have made it easier to make and maintain relationships with certain stakeholders. Over the period of doctoral study, the researcher learned how to be clear and concise about the motivations behind research, making it easier to identify both willing and sufficiently informed respondents. Interviews conducted were semi-structured, with questions designed in advance based on literature reviews and appraisal of the context in each scenario.

The cases were selected to test the hypothesis above - that social innovation in the built environment takes place in non-linear phases of the *network*, *framework* and *architecture*. The table below show three case studies for each phase – one social, one economic and one environmental - each phase framing approximately a year of research in this doctoral study. Engagement with case studies benefited from the researcher's background in participatory design practice – and an ability to speak several languages has been useful in developing relationships with informants and translating the nuances of each cultural context in research outputs.

	NETWORKS	FRAMEWORKS	ARCHITECTURES
Social	Dublin Docklands	Moscow	Belgrade
Economic	Recife	Chicago	São Paulo
Environmental	Christchurch	Gaelic Ireland	Lille

Table 1: Matrix of case studies

The case studies are chosen as examples of a networked approach to social innovation in the built environment. Cases in Recife and São Paulo are selected based on prior knowledge, through engagement with scenarios – and spatial discourse as an invited academic at University of São Paulo (USP) - while in Brazil, as is the case of Dublin Docklands – where the researcher had already been collaborating with community stakeholders. The cases of Christchurch, Moscow, Chicago and Gaelic Ireland were identified through literature review - over the course of doctoral study, and Belgrade and Lille were included through research engagement with academic colleagues. More detail is provided on each case below and in subsequent sections and individual chapters.

1.7.3.1. Networks

Research began with the *network* phase and identified three instances were networks had formed to develop a strategic spatial response to a challenge facing their community.

1.7.3.1.1. Social - Dublin Docklands, Ireland

The area of the Dublin Docklands continues to be a site of one the biggest transformation of built environment assets in Ireland. Over nearly three decades the area has developed into a global centre of information technology and financial services - with negative consequences for local communities. Regeneration has ignored indigenous communities, who have been locked out of the planning process, increasing their social isolation. The researcher had an established relationship working with Dublin City Council to help design and establish a community mechanism - *Dublin Docklands Cultural Forum* - to allow citizens, and local cultural stakeholders to participate in spatial decision-making in the area. It was initially envisaged that research-by-practice would shadow the development of this organisation and their impact on driving more inclusive growth for residents. Since 2018, a lack of resources and capacity within the community organisation has meant that their activities have stalled.

1.7.3.1.2. Economic - Recife, Brazil

The case of *Porto Digital* - a distributed technology park developed on the site of a redundant port area - was examined as a response to economic brain drain in the city of Recife, Northern Brazil. The wide and cross-sectoral network associated with this project has made significant progress, and continues to impact on the development of the city of Recife, and other urban settlements in Pernambuco. *Porto Digital* and its many start-ups are thriving, provoking incremental regeneration – and economic growth - of the port area. Interviews were facilitated - a number of months prior to the commencement of doctoral studies - in March 2016, based on a previous professional connection with *Porto Digital's* strategy team made by the researcher in Brazil. Contact is maintained with this network through those established links.

1.7.3.1.3. Environmental - Christchurch, New Zealand

The third case study of the *network* phase is Christchurch, a city that developed a bottom-up approach to post-earthquake regeneration within days of the catastrophe hitting the city. Through desk research the researcher identified a network of stakeholders, and travelled to New Zealand for qualitative action research. This was designed to coincide with the researcher presenting a keynote at the *Design for Social Innovation* symposium in Christchurch in 2017. In exchange for speaking, the researcher gained unique access to the network around *Regenerate Christchurch* - and was able to conduct several interviews (and a mapping exercise) with

nominated stakeholders. Contact is maintained primarily through the leader of the *Ōtākaro Orchard* project, a constant within the ecosystem of stakeholders on the ground in Christchurch. A paper featuring this study was published by Urban Science in 2018, and has attracted international interest (Horgan and Dimitrijević, 2018).

1.7.3.2. Frameworks

The *framework* stage of the research considers how a network develops shared consensus around the strategies for development. It looked at examples of participation in decision-making, alongside models for resilience – such as strategies for building a contemporary urban commons.

1.7.3.2.1. Social – Moscow, Russian Federation

The first case study of the *framework* phase looked at development in Moscow in the Russian Federation, and particularly at the goal to relocate up to 2 million citizens as part of plans for renovation and demolition of expired Soviet housing stock. The researcher, having worked as an architect in the city a decade previous, was able to use existing connections and social media groups to identify a network of stakeholders, primarily citizens but also representatives of local government. A literature review included a study of the Soviet typology of the social condenser for its social innovation value, but ultimately concentrated on 'smart city' approaches to governance and participation - focusing on a technology platform developed by the city government for citizens to engage with spatial decision-making, *Aktivny Grazhdanin* (Active Citizen). This case considered how technology can extend ownership over the planning process to citizens. The research consisted of a number of semi-structured interviews with stakeholders over a six-week period in summer 2018. Subsequently, a paper on the research findings was presented at the SDBE 2018 conference in London (Horgan and Dimitrijević, 2019).

1.7.3.2.2. Economic – Chicago, United States

Another socially innovative framework for balanced development came from the community of Bronzeville, South Chicago, USA. This case study concentrated on Bronzeville Urban Development (BUD), an organisation whose strategy for resilience is based around the potential for energy independence through the location of a solar farm on a redundant railway

asset. BUD has been working with local stakeholders including Illinois Institute of Technology (IIT) and Commonwealth Edison on a micro grid for the community. In investigating this case, the researcher spent time living with the leader of BUD - tragically now diseased - shadowing her practice and the consultation process. Interviews with other BUD stakeholders, including an architect with IIT - were conducted via introductions from BUD. Subsequent post-doctoral research may look at developing further the solar farm proposal with stakeholders in memory of their leader.

1.7.3.2.3. Environmental - Gaelic Ireland

This historical case study unearths a long-forgotten and understudied example related to the management and governance of a commons in precolonial Ireland. Following a transdisciplinary research methodology, the focus of this aspect of the research was to seek new knowledge from other disciplines - namely agrarian and social sciences - and apply this to planning and the built environment. Research was conducted primarily through literature review but also through initiating a dialogue with experts on Gaelic Ireland and established researchers in the area of Celtic Studies. A paper presenting these findings applied to the Chicago case - as an ecological framework for urban energy commons - was well received at the Urban Commission of the International Geographical Union (IGU) 2019 Annual Conference, at the University of Luxembourg.

1.7.3.3. Architectures

The final phase of research, the *architecture* stage, looks at the outcomes of networked social innovation in the built environment, and the resultant architectures - be they physical, digital or otherwise - that emerge as spatial responses to resilience. Following on from previous research phases, this part of the investigation began to coalesce around the notion of an urban commons, and at housing solutions in particular.

1.7.3.3.1. Social – Belgrade, Serbia

Serendipitously, the researcher was invited to take part in an Erasmus exchange with the University of Belgrade, Serbia, during the course of doctoral research, which cemented that city as an important case study in the overall investigation. Focusing on the development of New Belgrade and mass housing typologies for the people of Socialist Yugoslavia, a deep

literature review was conducted in order to shed new light on the Yugoslav case. The underlying political architecture of the Yugoslav system - self-management - was examined alongside processes for building housing for all. Desk research was supported by several interviews with academics, architects and planners from the city and supplemented with a survey questionnaire. Similar to other locations visited during study, links and connections are maintained with the community of practice in Belgrade.

1.7.3.3.2. Economic - São Paulo, Brazil

The São Paulo case was identified early on in research as an important focus of study. The researcher has first encountered housing occupations in that city in 2013, prior to commencement of doctoral studies in 2016. The researcher has an extensive network in the city having lived and worked there over a number of years - engaging with the social innovation and spatial activists' community. Existing links helped the researcher to arrange for action research over an intensive two-week period in December 2018. Participatory sessions or workshops were initially planned as part of the action research, but in practice these proved to be too difficult to arrange given the complicated lives of the occupations' residents. Instead, the research spent time living at two occupations, shadowing processes and conducting one-on-one interviews with identified stakeholders. Findings were again shared in a paper at the 2019 Annual International Conference of the Architectural Humanities Research Association, in Dundee.

1.7.3.3.3. Environmental – Lille, France

The final case study in the series, is that of Lille in Hauts-de-France, a region undergoing a post-industrial transformation with mixed results for citizens. This case focused on the redevelopment of a vacant brownfield site in the city centre - which is contested by a number of community and environmental groups. The researcher identified stakeholders through a mix of personal and professional links. Action research on the ground was preceded by desk research, helping to identify protagonists to be interviewed. A literature review - informed by previous case studies - assisted the researcher to develop a set of questions. Engagement-led research consisted of interviews with residents, local government and association stakeholders, which painted a complicated political context. In revealing complex multiple narratives, the research in Lille turned out to be the least straightforward - as subsequently

discussed in later chapters. This said, the research context has brought together a number of themes of the wider doctoral study - provoking the researcher to question if there is truly such as thing as (one) community, and whether 'a community' can ever be truly aligned in a vision - often composed of multiple different ambitions.

1.8 Thesis structure

This section outlines the thesis structure and includes brief descriptions of the contents of each chapter.

Chapter 2: Literature Review

Literature review provides an overview of research related to social innovation and identifies the knowledge gaps that this research aims to overcome.

Chapter 3: Social innovation networks

The first phase of the investigation is focused on networks, and looks at how communities come together and self-organise in response to social, economic or environmental challenges. The cases chosen looked at how (and if) these networks could interact with and influence the planning process. It considered the role of the architect within the network, their input and outcomes.

For the network phase of investigation, the objectives were to:

- Examine the shape of the network in each case, the stakeholder ecosystem and how actors collaborate to produce social innovation – understanding how the network organises and sources new collaborators
- Interrogate the barriers and challenges to collaborative action – both from a resources and public policy point of view – towards a goal of social innovation for communities.
- Understand what tools and methodologies these networks use to facilitate collaboration, and engagement with end users, citizens.

The case studies examined are Dublin Docklands (social), Recife (economic) and Christchurch (environmental).

Chapter 4: Social innovation frameworks

The next phase of the investigation is focused on frameworks, and the process of developing actionable policy or strategies from networked collaboration. These cases were chosen to examine scenarios where shared frameworks allow coherent strategy to emerge - from multiple actors working in unison towards common outcomes.

For the framework phase of investigation, the objectives were to:

- Examine the role of local authorities – or governance systems – in guiding collaborative, community-driven social innovation in the development of transformative frameworks that could enable community resilience – and support the development of architectures for resilience.
- Consider what policies, tools and technologies can facilitate more democratic approaches to brief-making and strategy formation – including the capacities, structures and spaces that support these.
- Develop an understanding of the cross-cutting themes of ownership, governance and participation.
- Understand the impact of these themes on open decision-making, and engagement-led methods that allow communities to engage in the processes of building resilience.

The case studies examined are Moscow (social), Chicago (economic) and Gaelic Ireland (environmental).

Chapter 5: Social innovation architectures

The final phase of the investigation is focussed on architectures, and the actual solutions – be they physical, digital, organic or otherwise - that support greater resilience within communities. Case studies are again selected as models of social innovation, and are examined in terms of process, impact, and legacy.

For the architecture phase of investigation, the objectives were to:

- Identify best practice within these projects, understanding whether the local capacity for social innovation is dependent on a particular governance system, capacity or technology.

- Develop an understanding of the impact a project has had in its community, the success of the solution in response to the associated social need – social, economic or environmental - and the impact on community resilience.
- Consider the barriers to social innovation and multidisciplinary practice – including governance, skills and resources, technical and financial capacities – in the cases studies, and how these could be overcome.

The case studies examined are Belgrade (social), Sao Paulo (economic) and Lille (environmental). For each case study a specific set of questions were used, with common themes presented throughout.

Chapter 6: Discussion

The discussion includes a description of the evolution of research questions and methodology in response to different contexts of case studies and related constraints or opportunities. It also provides an analysis of knowledge gained on social innovation networks, frameworks and architectures. The discussion highlights key research findings related to the aspects that enable successful application of social innovation in practice. Finally, the discussion addresses the role of architect in social innovation phases - establishment of networks, development of frameworks and design of solutions.

Chapter 7: Conclusions

The conclusions describe the research contribution to knowledge on various forms of social innovation and its application in practice. They highlight key research limitations and provide recommendations for future research.

Chapter 2: Literature Review

2.0. Introduction

The literature review was developed in an iterative way over the hypothesised research phases of network, framework and architecture development, while adopting the following related definitions: *network* - a group or system of interconnected people or things; *framework* - a basic structure underlying a system, concept, or text; *architecture* - a complex or carefully designed structure of something (Oxford Dictionary). The phases' names are related to the terminology used in the field of informatics as the development of software 'architecture' is ontologically close to the development of the hardware of cities and settlements - buildings.

In the context of this research, the *network phase* occurs on the ground, brought about by the collective action of a group or a community around a shared mutual objective for transformation. The *framework phase* encompasses the policy and the structures that may enable sustainable community (renewal) transformation to take place. The *architecture phase* entails socially innovative solutions and civic infrastructure manifest within our (digital and) built environment to provide for community resilience.

The literature review entails an investigation of the discourse on the following concepts, starting with the wider, contextual themes that influence the process and effectiveness of social innovation in the built environment:

- community resilience (2.1):
    - environmental resilience (2.1.1)
    - social resilience (2.1.2)
    - economic resilience (2.1.3)
- transdisciplinary approaches (2.2)
- politics of space (2.3)
- social innovation (2.4)
    - networks (2.4.1)
    - frameworks (2.4.2)
    - architectures (2.4.3)

The literature review aimed to identify if and how the above concepts could benefit from further investigation of their application in practice. Diagram C provides a mapping of the overarching concepts presented in the doctoral study, indicating how research was structured. Community resilience, as per detailed definitions provided below, refers to the capacity of a system to absorb disturbance and change while retaining essential functions, that include structure, identity, feedback, adaptability and sometime transformability. It is built by networked collaboration, communities working together to develop sustainable, self-managed place-based social infrastructure. When viewed within the process of social innovation it can be understood as an outcome of well-framed collective organisation. As previously indicated, sustainability - itself a process towards socio-ecological equilibrium - offers a framework for empowering dispossessed communities. The diagram indicates how sustainability relates to community resilience, and how agile responses to spatial challenges can be facilitated by community involvement, and open governance.

In their Advanced Introduction to Social Innovation, Moulaert and MacCallum (2019:92) are keen to point out that, contrary to some beliefs, the term itself has been use since the eighteenth or nineteenth century. In their book, they track the evolution of the concept from the anti-capitalist revolutions that brought about guilds and socio-political cooperatives, to its proliferation within neighbourhood planning initiatives in the seventies, and modern socio-ecological movements. Its re-emergence has coincided with the growth of critical social movements in response to our great societal challenges. Citing the work of Godin (2012), the authors note that the concept was applied to social matters before it was applied to technology. The concept is associated with waves of international social mobilisation, beginning in the latter part of the twentieth century with neighbourhood redevelopment actions to social economy movements in response to twenty-first century austerity. Moulaert and MacCallum's (2019) book acknowledges that while conceptual meanings are divergent, there are some features about which scholars are in agreement (Van der Have and Rubalcaba, 2016). These are that social innovation practice is not the domain of any specific field of practical endeavour; that solutions are oriented to addressing social need; and social in both their goals and methods (Moulaert and MacCallum, 2019). In the context of built environment research, social innovation has become a process for communities to scaffold new infrastructures that overcome spatial inequalities and powerlessness. The tools and mechanisms that communities use to pursue social innovation in the built environment focus

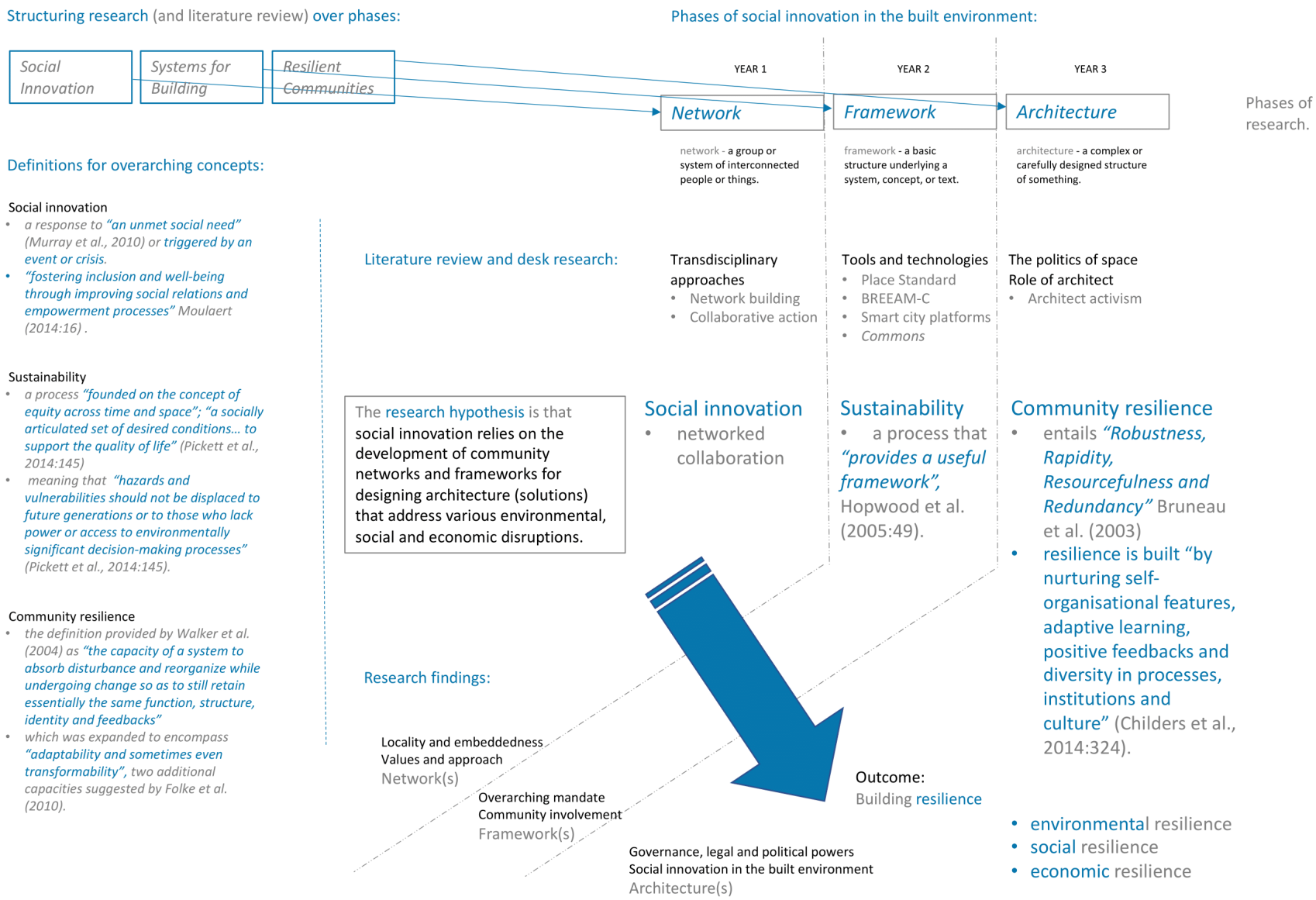


Diagram C: Mapping Overarching Concepts

a Joint Problematisation Approach (JPA) that include network building, co-design and the creation of spaces in which alternatives can not only be imagined but enacted (Moulaert and MacCallum, 2019). Joint problematisation, which underpins the social innovation process means, *"better connecting traditional scientific methods with participation and co-construction methods"* Moulaert and MacCallum, 2019:110).

Genuine social innovation – that implies co-construction of solutions – is required to address persistent democratic deficits in the practice of planning and architecture. Already at the end of the sixties, Arnstein (1969) presented a credible critique of citizen participation in planning, using examples from US social programmes related to urban renewal and model cities. In a seminal paper she explains how, performed correctly, participation in the design process should confront unequal power distribution in decision-making related to the built environment. Without addressing these imbalances, participatory design exercises will render already excluded groups frustrated and powerless. While co-design processes with communities are inherently socially innovative, they will only ever be tokenistic if they do not lead to co-development of frameworks for change, co-delivery of solutions and co-management of infrastructure. Arnstein (1969) identifies several barriers to open dialogue - including ideological and political prejudices among powerful stakeholders on one side, and knowledge and skills deficits among citizen groups on the other. It is within this context of *"power and powerlessness"* that Arstein (1969:217) identifies eight levels of community participation – from manipulation; therapy; informing; consultation; placation; partnership; delegated power to full citizen control. Honest devolvement of power to communities produces greater ownership of the design process, allowing new governance structured modelled on deeper participation to emerge. In the evidence shared by Arstein, all citizens achieve from design consultation is that they have *"participated in participation"* unless there is a political will to give currency to their ideas and objections (Arstein, 1969:219). Her study found that among the programmes examined, no city's structure provided for truly shared decision-making, and that little thought have been given to ensuring continued citizen participation during implementation stages.

Since 2010, the Scottish government has placed an emphasis on participatory approaches since a Council of Economic Advisor's report in 2008, which characterised the quality of Scotland's development as *"mediocre […] and indifferent"* (Scottish Government, 2008:44). A

comprehensive paper published by Kennedy (2017) provides the context for the introduction of architectural charettes in Scotland as an important participatory design tool in planning. The design charette is a participatory design exercise where communities and citizens stakeholders work to define barriers and opportunities for sustainable development in their locality. Within a charette, a team composed of architects and decision-makers will join citizens in facilitated interactive workshop, often outlining a masterplan developed over a series of feedback loops. Alongside the *Place Standard,* the charette programme represents a commitment to addressing perceived democratic deficit in the development process. Similar to the *Place Standard*, the charette is a way for built environment professionals to have open dialogue around transformation based around holistic outcomes for community. However, charettes are not in any way a formal statutory engagement instrument, neither are decision-makers obliged to take any of the discourse into account when putting forward development strategies. The author refers to findings from Brownhill (2009) who notes that many stakeholders involved in the charette process questioned the longer-term impact it had for those communities canvassed. She found that in the absence of any programme evaluation, the social impact of the charette programme is largely unknown (Kennedy, 2017). Her research offers a methodology for understanding what works well in the charette programme, making clear that an effective evaluation strategy – and feedback loops - is crucial to the path of social innovation. When viewed in the context of Arnstein's (1969) levels of participation, as a tool the charette appears tokenistic, and does not go far enough to address power imbalances to bring about impactful socially innovative solutions.

Having spent time facilitating participatory design exercises for both architecture and public service design, this researcher found anecdotally that dialogue around the built environment planning was often much more hierarchical – and political – than critical discussions about community planning. Indeed, the role of ethics plays an important part in the process of social innovation across all contexts (Moulaert and MacCallum, 2019). Al Waer and Cooper (2019) present a review of the role of facilitators in participatory design events such as the charette. In a comprehensive literature review, the authors found that while high expectations are placed on facilitation, no standards exist among practitioners (Al Waer and Cooper, 2019). While knowledge exists around what constitutes public participation done well, their paper shares evidence that suggests that community involvement can sometimes increase a

democratic deficit. Despite this the charette is in widespread use as a planning tool across the Western World, even though the tendency is for consultation only after critical spatial decisions have been made (Ermacora and Bullivant, 2016). The growth in popularity of the charette is ascribed to the popularity of similar co-production tools, for agile co-development of more sustainable public service infrastructure in a user-centred design process (Petrescu et al., 2016). Al Waer and Cooper's (2019) findings on participation suggest that better facilitation can help participants make connections between aspects of governance, resource and delivery, with respect to plans for place. Their work asks what supports are available to communities to assume genuine ownership over later stages of the design process.

In a subsequent article examining design-led events within the context of collaborative planning, the same authors describe planning as a fluid process that must be constantly adapted to accommodate dynamic interactions between stakeholders (Al Waer and Cooper, 2020). The paper attributes the value of design-led sessions not as standalone events within the design process, but as dependent on decision made prior to or after consultation with participants (Al Waer and Cooper, 2020). In this way, co-design becomes a tool for mediating between competing perspectives and opinions (Al Waer and Cooper, 2020). Mindful of Arnstein's (1969) Ladder of Participation, Al Waer and Cooper (2020) present a similar scale to represent the depth of participation - with activities where tick-box planning consent is engineered at one end, and deeper and more impactful consultation where stakeholders are considered as part of the delivery, at the other. Their paper cities evidence from planning literature where facilitators of design-led events have been blamed for favouring the interest of private developers or local authorities over communities (Ermacora and Bullivant, 2016). Al Waer and Cooper (2020) write that facilitators must assist communities in carving out forward pathways, as well as monitoring and evaluating interventions over time. Their paper suggests that taking a longitudinal engagement approach with stakeholders, helps capacities build up within organisations at the grassroots, ultimately providing for a more democratic governance structure that enables more sustainable outcomes for community resilience. In this regard, a wider network of stakeholders is proposed in order to facilitate more inclusive decision-making.

In their paper on new professionalism, Bordass and Leaman (2013) put the lack of operational insights from the design process - at briefing, construction and regulation stages - down to poor feedback loops among design team stakeholders. They note that research shows

that even high-quality buildings do not meet anticipated levels of building performance, and that outsourcing of government construction projects has lessened knowledge transfer. Equally, technological innovation has not always improved collaboration - noting research from Jaradat et al. (2013) the authors explains while BIM provided accountability within the design team, it has imposed new constraints on how people do their work, reducing individual responsibility while increasing the potential for error.

Socially innovative architecture(s) depend on insights generated from the sharing the tacit knowledge of stakeholders throughout the process, from the designers to end-users. Bordass and Leaman (2013) emphasise how frameworks for sustainable development are often incompatible with short-termist politics, and that while public-private partnerships can share risk, they too often value cost over social impact. For Bordass and Leaman (2013), sustainability goals are closely related to professional ethics, meaning that built environment professionals must work proactively for the good of society. By focusing on shared outcomes, networks of stakeholders can employ what they call a 'soft landings' approach – bringing about community resilience by managing stakeholders' expectations during the design and construction process, and long after.

2.1 Community resilience

As social innovation is considered as a pathway to strengthening communities by building their social, economic and environmental resilience, definitions of those concepts were explored and presented below.

As Missimer et al. (2017:11) have identified, many descriptions of resilience in the literature build on the definition provided by Walker et al. (2004) as *"the capacity of a system to absorb disturbance and reorganize while undergoing change so as to still retain essentially the same function, structure, identity and feedbacks"* which was expanded to encompass *"adaptability and sometimes even transformability",* two additional capacities suggested by Folke et al. (2010). Jung (2017:16) similarly defines community resilience as *"a set of adaptive capacities that focus on resource mobilisation and facilitate successful adaptation to unpredictable adversities"*. Following this, a 2019 report documenting a decade of progress since the first Resilient Cities Congress in 2010, the Local Governments for Sustainability network (ICLEI), provides an integrated definition for urban resilience as the *"ability of cities to*

anticipate, prevent, absorb and recover from shock and stresses, and to improve basic response structures and functions, while integrating the different aspects of urbanisation, sustainability, development and climate change" (ICLEI, 2019:5).

In framing the context of ecological resilience and resilient cities, Pickett et al. (2014:145) define sustainability as a process "*founded on the concept of equity across time and space"*. In this way, sustainability becomes *"a socially articulated set of desired conditions… to support the quality of life"* (Pickett et al., 2014:145) meaning that environmental *"hazards and vulnerabilities should not be displaced to future generations or to those who lack power or access to environmentally significant decision-making processes"* (Pickett et al., 2014:145). Resilience is thus defined as *"a metaphor of springing back, of elasticity"* (Pickett et al., 2014:149) away from older definitions derived from engineering. In the context of urban settlements, resilience is *"facilitated if wealth can be remobilised"* and when *"the disturbed system can again build structure and accrue capital"* (Pickett et al., 2014:149). For the planning of cities, this means developing a better understanding of how resources are managed within that ecosystem (Childers et al., 2014) and how resilience is built *"by nurturing self-organisational features, adaptive learning, positive feedbacks and diversity in processes, institutions and culture"* (Childers et al., 2014:324).

Mulgan (2019:136) notes, however, that to date there has been little connection in the study of resilience *"to research on the dynamics of social innovation"*. However, it is widely understood that community resilience entails *"Robustness, Rapidity, Resourcefulness and Redundancy"* (Bruneau et al., 2003; Norris et al., 2008; Hopkins, 2008; Jung, 2017). Increasingly, this also includes developing the tools and capacities within the community that can enable adequate responses to new challenges as they emerge. This has meant identifying historical patterns of innovation—to understand economic waves of growth—and the impact that the resulting social change may have had on individual societies and communities.

Impacts on community resilience are manifest in three broad arenas—the environmental, social and economic—meaning that to get a holistic view of the global problem, these aspects need to be considered together.

2.1.1. Environmental Resilience

In the late twentieth century, the impacts of anthropogenic climate change resulting from policies that maintain dysfunctional economic systems (Bonneuil and Fressoz, 2016) have

brought about numerous environmental catastrophes, death and displacement. Hopkins (2008) points to a core set of environmental researchers who agree that collaborative multidisciplinary practice across a wide set of subject areas—and only made possible by new technologies—can provide new mechanisms for decision-making around our environment that will reduce the alarming rate of material degradation (Garric, 2017). Bonneuil and Fressoz (2016) refer to the work of Hardin, who has estimated that *"the monetary value of services rendered annually by nature on the planetary level"* are *"between $16 trillion and $54 billion dollars or the same order of magnitude as global GDP"* (Hardin, 1968). Bonneuil and Fressoz (2016) echo Mason (2016) and Monbiot (2017a) in calling for an ecology-led approach to development to enable understanding of our planet's complex ecosystems and their processes. This allows for the design of sophisticated social infrastructures—comprising many actors and agents working in unison to iteratively improve and repair the environment—empowered by cutting-edge technology in distributed systems (Rifkin, 2014), information networks (Rifkin, 2014) and feedback loops (Monbiot, 2017a). As per the ICLEI report (2019), (community) resilience should not be viewed as a narrow response to the challenges of climate change adaptation, but as a holistic concept that brings together environmental and socio-economic aspects that include social equity and justice.

2.1.2. Social Resilience

While much has been written in the last few years about environmental sustainability and resilience (Hopkins, 2008; Bonneuil, and Fressoz, 2016; Monbiot, 2017a), we are still some way from a consensus around what constitutes social sustainability. This is ultimately measured through metrics such as the Gini coefficient or Happiness Indices (Barr, 2017). Following the financial crash in 2008, Wilkinson and Pickett (2010) have indicated that while economic 'growth' has persisted, it has not delivered any increase in the quality of life for citizens of developed countries, with inequality leading to an increase in mortality rates in some areas of the USA. Understanding what constitutes the 'social resilience' of a community, and what barriers—such as inequality and non-participation—may be impediments to achieving this, are key to planning adequate interventions. Sennett (2012) emphasises the need for coordinated collective actions as the means to emancipate societies from the increasingly detrimental effects of unchecked neo-liberal capitalism. Challenges such as growing wealth inequalities -

that precipitate migration and inclusion - are cited in literature as examples of same (Martin-Moreau and Ménascé, 2018; ICLEI, 2019).

2.1.3. Economic Resilience

There is a steadily growing criticism of prevailing economic models and modes of production that have put the world in a precarious position of continuous growth for growth's sake, while ignoring the catastrophic effect this is having on our planetary fabric, our mental and general health and socio-democratic systems. Orrell (2017) joins Earle et al. (2016) in exposing the failures of economic theory, and leads to questioning the capacity of our current economic model to provide for inclusive economic resilience. *"Economics affects everyone, sometimes painfully so"*, and according to Earle et al. (2016:27) *"economists and their frameworks have been unable to help societies address some of their most important problems"*. Orrell (2017) claims that the behaviours of the economy can be predicted with no greater accuracy than the weather, and are understood to the degree that we understand the workings of clouds (not very much). However, *"the economy has more in common with a living organism than it does with a machine"* Orrell (2017:6).

Again, this line of inquiry points to concepts of complexity science—which view economic systems as complex ecologies of interdependent relationships—as more appropriate tools in understanding the opportunities for redesigning and strengthening resilience. The Club of Rome models of de-growth in the 1970's initiated subsequent criticism of growth for growth's sake at the peak of the industrial revolution (Meadows et al., 1972). Intersections with ecological frameworks, and how they contribute to inclusive, manageable growth are subsequently explored alongside case studies in Chapter 4. There is consensus that economic resilience, and the consequences of extractive growth models produce societal hazards that must be addressed by urban planners and included in relevant policy frameworks towards a holistic vision for resilience (ICLEI, 2019; Martin-Moreau and Ménascé, 2018).

2.2. Transdisciplinary approaches

As transdisciplinary approaches are notable in the development of social innovation networks, frameworks and architectures, evolution of their application in problem solving and planning of the built environment is explored in this section.

Klein et al. (2001:4) present the core concept of transdisciplinarity as "*different academic disciplines working jointly with practitioners to solve real world problems… increasing its unrealised intellectual potential and, ultimately, its effectiveness"*. This interpretation follows Gibbons' (1994:29) reading that *"cooperation… leads to clustering of disciplinary rooted problem-solving and… homogenised theory"*.

While urban planning was much closer to architectural practice before the 1960s, the idea of the city as a system has ironically divided disciplines instead of working towards a more integrated body of knowledge (Després et al., 2011). Transdisciplinarity is increasingly being held up by academics as a way to make architectural research more impactful for society - and to cope with complexity, uncertainty and ambiguity (Després et al., 2011). The benefit of a systems thinking approach means that (co)design is now recognised as a legitimate mode of research enquiry – where analysis, insights and knowledge production all benefit from the contribution of multiple actors and disciplines (Després et al., 2011; Simon, 1996).

In their essay in an anthology on *Transdisciplinarity and Knowledge Production in Architecture and Urbanism*, Biggs and Buchler (2011) are clear to draw comparison with Klein et al.'s (2001) definition of transdisciplinarity and the inherent practice of architecture. Dunin-Woyesth and Nilsson (2011) lament the separation between the academy and the profession in architecture, emphasising the need to develop design thinking methodology in architectural research. For them, *"designerly ways of thinking"* are at least equal in status to traditional methods of knowledge production (Dunin-Woyesth and Nilsson, 2011:87). This is in a context were the *"societal role of architecture… influenced by global networks of economy and production described by change, elusiveness and flows, where borders are blurring and vast urban landscaped are emerging"* (Dunin-Woyesth and Nilsson, 2011:85). Design thinking and transdisciplinarity are focused on solutions to real-world problems where the sum of knowledge is greater than the contribution of a single discipline (Dunin-Woyesth and Nilsson, 2011; Klein et al., 2001). Writing on the production and communication of knowledge in architecture, Nilsson (2013:2) notes that research approaches such as design thinking are *"ways to approach complex situations… integrating, and connecting, the different aspects and elements into something manageable"*. Nilsson (2013:6) writes that increasingly, academics are looking to design thinking as *"a way to broaden the scope of research and acknowledge types of knowledge and problems that are difficult to manage within traditional borders"*. He refers to design thinking as the new production of knowledge - defined as Mode 2 by Gibbons

(1994:3-5) - that implies a shift *"to enquiry that is oriented towards contextualised results, reached through experimental practice"* (Nilsson, 2013:6). The connections between academic research, practice of architecture and evidence-based transdisciplinary research are becoming ever more important for planning (Lucas, 2016). Through ethnography, participation and observation, a new understanding of the social processes that govern the built environment become apparent.

Writing about participatory action design research in urban informatics, Bilandzic and Venable (2011) emphasise the idea of the city as an ecosystem. They believe that *"people networks, places and infrastructure cannot be studied merely as social and physical phenomena, but rather as and ecology of social, physical and technological domains"* (Bilandzic and Venable, 2011:4). In the same way research models in systems thinking, urban ecology and design thinking often employ the same ethnographic approach to research, as taken in this study - for analysis of multiple perspectives, allowing different narratives to emerge.

Similarly, concepts from informatics such as Actor-Network-Theory (ANT) offer models for architectural research that allow for the study of multiple actors and processes in placemaking and the production of space (Nilsson, 2013; Yaneva, 2009). ANT is a theoretical framework that describes *"how facts and artefacts are constructed, configured and reconfigured through negotiations between different interest groups"* (Fallan, 2008:81). Latour (2005) and others have pointed to its relevance to the study of architecture as a process, to which Fallan (2008:86) refers as *"the construction and alignment of interests"*. For Fallan (2008:85), architecture is *"socially formed, but [...] also informs social behaviour, whilst in turn being continuously transformed by social activities"*. Fallan (2008) is keen to make clear that the architect is only one person within a broader network of stakeholders that contribute to spatial production. The ethnographic approach to research - promoted by ANT - offers a methodology that is widely applicable to the study of settlements, these being continually shaped and reproduced by their inhabitants (Lees, 2001; 2003).

Holistic and integrated planning is limited by the lamentable lack of feedback loops in the processes that are central to the design of contemporary technological systems. Feedback loops are also a feature in the study of resilience sciences towards an ecology for cities (Childers et al., 2014; 2015). In their article on transdisciplinary urbanism, Rizzo and Galanakis (2015) echo others in the call for architecture to become more relevant to society, both socially and politically (Rizzo and Galanakis, 2015; Gamez and Rogers, 2008). They remind us that

transdisciplinarity in architecture allows researchers to be more politically engaged and supported by a network of other practitioners (Rizzo and Galanakis, 2015). As above, transdisciplinary urbanism as a methodological framework, allows communities of practice - consisting of various actors and disciplines - to build up in response to spatial inequality.

Commentators such as David Harvey (2011; 2012), and Rolnik (2019) build on the ideas of Lefebvre (Lefebvre, 1991; 1996; 2014) - how networks can collaborate on frameworks for change that enables social equity in the built environment. With modern technology and social innovation, communities can reimagine utopian visions of the commons through open-placemaking versus dystopian 'smart' cities of surveillance (Greenfield, 2017). Lack of co-design through engagement with communities sometimes results in insurgent tactics such as occupation and civil disobedience to challenge the status quo and provide alternative narratives to top-down development approaches. Theories around the co-production of knowledge call for insights that might be gained outside the discipline of architecture to understand the root causes of spatial inequality. Contemporary research in urban design promotes transdisciplinary – and interdisciplinary approaches – to plug the existing knowledge gap, *"in the sense that through engagement with complex urban problems from contrasting disciplinary perspectives, new knowledge can be generated and then shared"* (Carmona, 2020:6). In their *Advanced Introduction to Social Innovation* Moulaert and MacCallum (2019) emphasise the importance of transdisciplinarity for social innovation.

2.3 The Politics of Space

An overview of the role of architecture in the politics of space was based both on historical and contemporary sources - from the theories of the philosopher Karl Marx to the arguments put forward by the journalist Paul Mason. For this study, political themes have laid a foundation for both the literature review and investigation in the field - looking to the work of Lefebvre (Lefebvre, 1991; 1996; 2014) and The Situationists (Debord, 2012). Enlightened policy, such as that based around the *Right to the city*, may provide a theoretical framework for communities to effect planning and decision-making (Harvey, 2012). Such concepts are central to the discourse across all selected case studies and help ground the examination of issues such as ownership, governance and participation.

Writing at the same time as Lefebvre, Debord and the Situationists' criticisms of authoritative decision-making in urbanism laid bare the unbalanced power relations in

capitalist spatial development, already in the middle of the twentieth century (Lefebvre, 1991; Debord, 2012; Hirsch, 2019). An understanding that a capitalist mode of production produces an unequal (neoliberal) configuration of space informed interpretations of the research and provided a lens with which to view the case studies.

Following Lefebvre (1996), researchers such as Lucas (2016:145), recognise the city as a socially produced space and that *"the process of production is a social one, a collaborative one, a relational one"*. In *Research Methods for Architecture*, Lucas (2016) devotes an entire chapter to the politics of space and the power relations involved in spatial production. He writes that *"a complex, multifaceted activity such as architectural design and construction is a deeply entrenched political endeavour"* (Lucas, 2016:142).

Some previous political systems such as those relying on forms of self-management - as in former socialist Yugoslavia, had some success in planning *Housing for all* to build an egalitarian vision. The global capitalism of today means that more often than not, home has become a commodity – increasingly out of reach for many as governments continue to favour the market in practice. While overarching policy may be socially or ecologically-minded, the underlying political system often prioritises economic growth at the expense of more holistic investment. Capitalist values, promoted by neoliberal governments, inhibit nuanced conceptions of public value that promote alternative measures of social capital (Mazzucatto, 2018). Neoliberal governance embraces tokenistic participation in planning, with simultaneously seeding disillusionment and disengagement - and eventually post-politicisation of the built environment (Swyngedouw, 2018).

In response, community activism to defend and claim spatial rights and agile approaches to obtaining those rights have emerged. Literature review identified architects collaborating in insurgent activism – supporting extra-legal actions of communities with regard to their spatial rights - borne out of engagement led research and practice (Holston, 1998; 2008). Environmental, social and economic disruptions trigger displacement of people and create the need for an agile provision of affordable housing and other social infrastructures. Writing in a paper on agile planning methodologies for kinetic urbanism, Dimitrijević (2019) outlines how 'ephemeral urbanism' (Mehrotra et al., 2017) provides a means for an efficient provision of affordable housing in the context of global population growth and migrations from rural to urban areas. "Agile" is used by Dimitrijević (2019) to indicate iterative planning process

that understands an implicit requirement to make changes as they are needed (Cambridge Dictionary) – flexible and informed by feedback loops.

Citing the work of Chilean architect Alejandro Aravena, who led the 2016 Venice Biennale *'Reporting from the Front'* (Aravena, 2016), that paper shares many examples of recent ephemeral urbanism and affordable architecture from around the world (Vidiella, 2016). Dimitrijević (2019) highlights the need for the development of the capabilities of all settlements to respond in an agile manner to global and local challenges. Dimitrijević (2019) supports Mehrotra et al.'s (2017) idea of a kinetic city model instead of a static, fixed model, to increase a city's potential "to deconstruct, disassemble, reconfigure, and reverse previous iterations, and … to quickly respond to socio-economic and environmental disruptions" Dimitrijević (2019:3). For Dimitrijević, the "concepts of agile urban planning and incremental housing design for self-building are aligned with the goals of creating sustainable built environments and should be included in the education of architects and urban planners" Dimitrijević (2019:1).

Furthermore, as architecture becomes increasingly informed by ideas such as Actor-Network-Theory, ethnographic engagement with users of space and the analysis of data from space equipped with ubiquitous technologies, allows us to gain a more holistic understanding of behaviours and social dynamics. Indeed, as the politics of space are more and more contested, the study of social innovation in settlements requires a deeper engagement, mindful that there is no one-size-fits-all solution for how we arrange our societies (Lucas, 2016).

Public investment and socially progressive approaches to planning for vulnerable communities can have the greatest impact. By admitting that our politics is the greatest barrier to social innovation in the built environment, architects – and their partners – can support more open and holistic policymaking to create thriving places. While wider architectural practice moves closer towards that which drives social change, diverse networks will provide architects with a robust evidence base with which to make a case for greater equitable social innovation in the built environment. As examples of hostile relations in urban design are common, Calderon (2020:62) calls for a *"greater awareness of hegemonic politico-economic articulation that determine the specific configuration of a society"* in the built environment. Much of the literature to date remains normative and procedural – focused on methods and best practice. In addressing the knowledge deficit, there are opportunities for genuine

community participation involving innovative approaches to governance, ownership and participation - based on ideals of *"deliberative democracy and communicative rationality*" (Calderon, 2020:50). A more reflective analysis, and honesty about the winners and losers in spatial decision-making, will help "*participants better understand (the legitimacy of) their own claims and those of their opponents… without having to necessary aim at, nor reach, consensus*" (Calderon, 2020:63).

The above understanding and awareness of different political contexts have influenced research methods applied in the case studies in this thesis.

2.4. Social Innovation

Social innovation is increasingly seen as a panacea to solving our most complex global challenges, after a hiatus of some fifty to seventy years. The type of socialist thinking that accompanied the French New Wave and other movements in the sixties (Steinfels, 2008) has re-emerged in the twenty-first century in our reimagining of the commons (Rifkin, 2014) and of general social value (Monbiot, 2017a). Social innovation is required as a response to *"an unmet social need"* (Murray et al., 2010) or triggered by an event or crisis. Moulaert (2014:71) writes how *"innovation often emerges from conflict: opportunity spaces at micro scales may make creative strategies possible at macro scales"*. It is closely linked to concepts of sustainability and resilience, and is often seen as a means to develop models, solutions and prototypes that provide for these conditions and support communities to become self-sufficient. Increasingly, social innovation is informed by political ecology and theories promoting complex and diverse systems that can adapt and respond to change and challenges (Folke, 2006; Folke et al., 2010; Peet et al., 2010; Elmqvist et al., 2013; Bonneuil and Fressoz, 2016; Latour, 2017).

Social innovation has been defined in different ways, emanating from disciplines such as social science and information technology. This is perhaps due to the fact that, as Moulaert (2014: 14) writes *"it forces us to bypass the delimitations between problems and fields of knowledge or practice"* because social innovation *"is never 'purely scientific', but is always about human development ambitions as represented by a diversity of social actors and individuals"*. Owing to the holistic nature of this inter-disciplinarity, there can be many, sometimes conflicting, definitions of social innovation. Moulaert (2014:16) surmises that, broadly-speaking, *"when we talk about social innovation we refer to finding acceptable*

progressive solutions for a range of problems" and therefore take social innovation to mean *"fostering inclusion and well-being through improving social relations and empowerment processes: imagining and pursuing a world, a nation, a region, a locality, a community that would grant universal rights and be more socially inclusive"*. In this regard, we must recognise many collective actions that benefit and advance an equal society to be social innovation, not only as novel architecture(s)/solutions or systems, but also as frameworks, policies and behaviours.

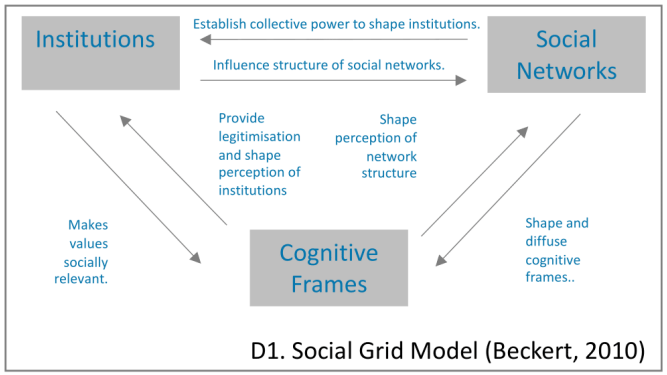
Attempts in scholarship to settle on an agreed definition for social innovation have somewhat counter-productively led to *"increasingly differentiated and contentious"* set of terms, *"based on diverse and often irreconcilable criteria"* (Moulaert and MacCallum, 2019:30). Moulaert and MacCallum (2019) therefore concluded – alongside other commentators – that social innovation can be best understood as a 'precept', or *"theoretical and practice work in-progress*", informing work which transcends disciplinary and sectoral boundaries (Moulaert and MacCallum, 2019:2). In his volume on *Social Innovation*, Mulgan (2019) offers a simple definition for social innovations *"as innovations that are social in both their ends and their means"* (Mulgan, 2019:10). Moulaert and MacCallum (2019) have identified seven tracks of social innovation research and associated methodologies, looking at aspects such as technology; social enterprise; decision-making; service innovation; community organisation; participatory design and transformative social innovation. They argue in favour of a joint problematisation approach, or *"combined holist and pragmatist epistemology for interdisciplinary and transdisciplinary social innovation action research"* (Moulaert and MacCallum, 2019:100).

Sustainable urban planning and design are increasingly dependent on social innovation, looking to to a variety of methodologies, tools and processes that support a multidisciplinary approach to urban transformation (Angelidou et al., 2017). The EU-funded TEPSIE project arrived at a core definition for social innovation as *"new solutions… that simultaneously meet a social need (more effectively than existing solutions) and lead to new or improved capabilities and relationships and better use of assets and resources"* (Caulier-Grice et al., 2012). As above, similar definitions are used to describe the concept in much of the recent literature, building on experience of collaboration among networks, policymakers and practitioners in the field (Mulgan, 2006; Mulgan et al., 2007; Phills et al., 2008; Johannessen, 2013; Ruiz & Parra, 2013; Angelidou & Psaltoglou, 2017). Alongside other types of innovation, social innovation in the

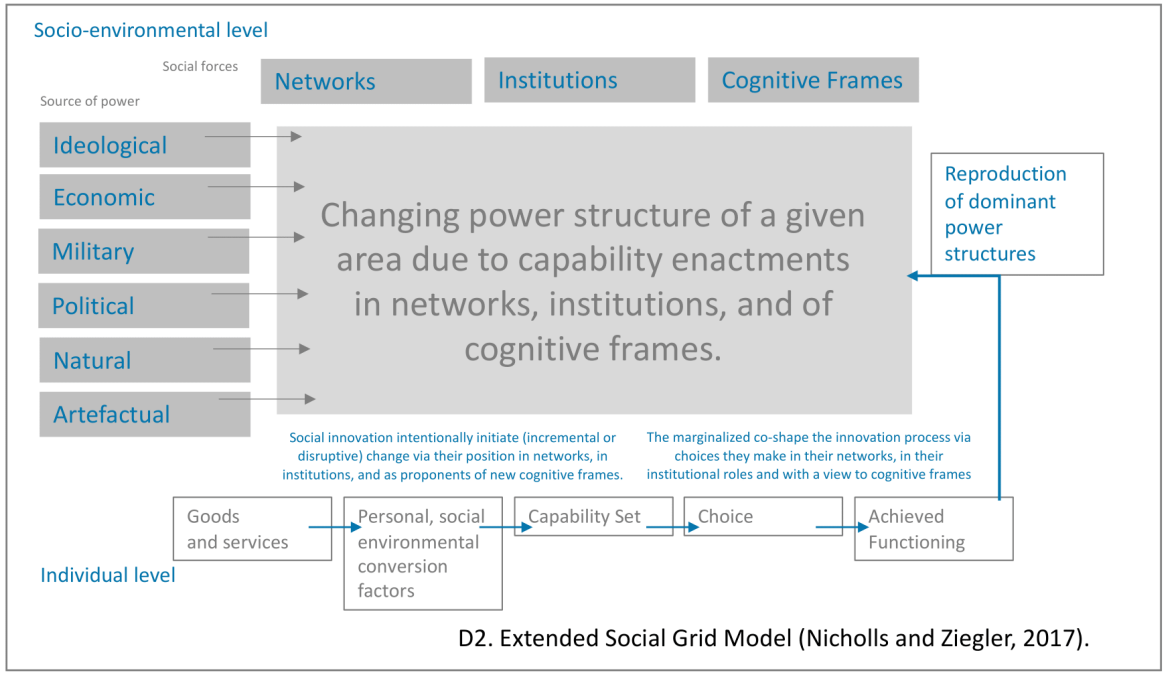
built environment is characterised by a collaborative approach of working towards a transformational impact in society. Although, it is also increasingly criticised as an extension for neoliberal reforms in the public sector (Massey & Johnston-Miller, 2016).

By definition, social innovation is something that is collaborative - meaning that it requires input from a number of (often isolated) actors, sectors, domains or knowledge areas working together towards a common goal (Horgan & Dimitrijević, 2018). Developing the hypothesis that social innovation occurs over phases of the network, framework and architecture (Horgan & Dimitrijević, 2018), collective approaches to urban design can inform more holistic policy development and inclusive growth are considered. The hypothesis of network, framework and architecture uses terms common to architecture and the built environment, but more common in recent times to describe features of software architecture and development. This is no coincidence, as the researcher identified obvious commonalities in the description of physical and digital architectures, and the processes of building in either field. Unsurprisingly, the design and build of software leans heavily on descriptors in architecture, and architectural metaphors are used to indicate the process, and features of development in informatics. Terms such as 'network', 'framework' and 'architecture' are understood in computer science to provide structure for similar elements in the process of physical construction. Seeking to inform the research hypothesis by emphasising knowledge transfer from the agile development processes in software development, I have applied these terms to phases in the delivery of socially innovative architecture(s) – be they hard, or soft infrastructural solutions. The formula underpins a simple hypothesis that collaborative activities inform coalition building, allowing stakeholders to arrive at a shared vision for social transformation, and the co-construction of resilient infrastructures.

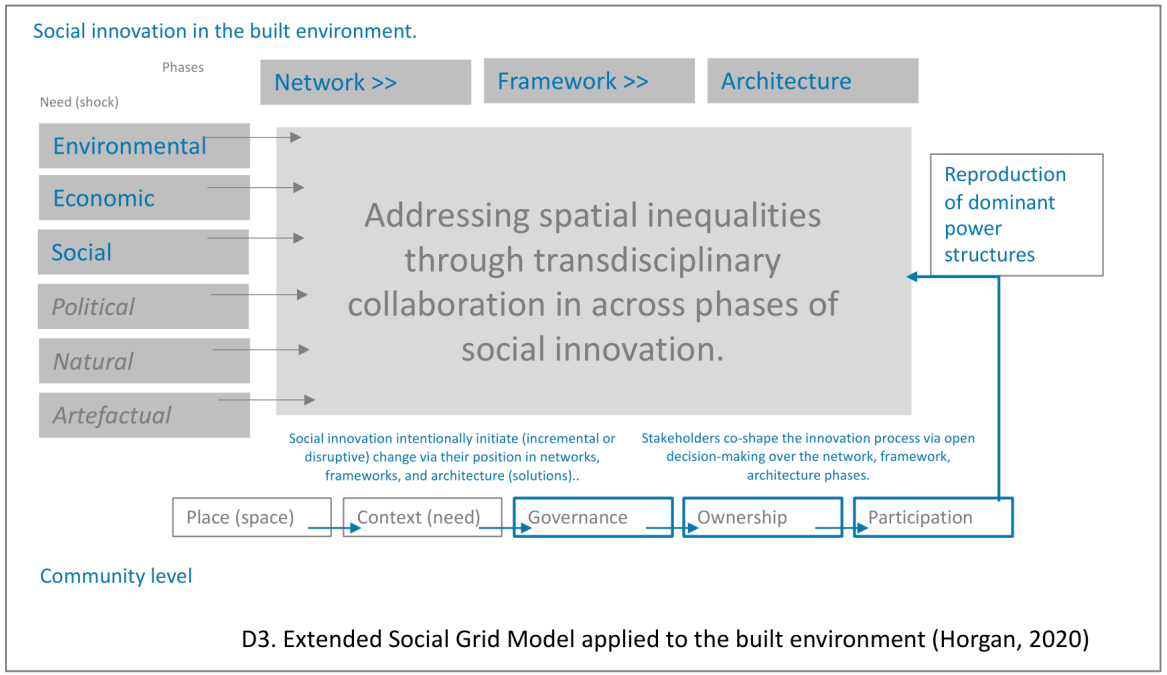
This formula, while not to be found elsewhere in research related to the built environment, shares concepts and a language with the (Extended) Social Grid Model developed by researchers in Oxford (Nicholls and Ziegler, 2017) - based on earlier work by Beckert (2010) - as seen in Diagram D. The Oxford model as indicated in Diagram D2. below, can be adapted specifically to the spatial context, allowing environmental, economic and social needs to frame a joint-problematisation approach (JPA), and inform the innovation process. Diagram D3. shows how the Extended Social Grid model applied to the built environment,



D1. Social Grid Model (Beckert, 2010)



D2. Extended Social Grid Model (Nicholls and Ziegler, 2017).



D3. Extended Social Grid Model applied to the built environment (Horgan, 2020)

Diagram D: Development of Social Grid Model

mindful of the phases presented in the hypothesis. Social forces can be replaced by these phases and retain their ontological meaning, while sources of power are replaced by inputs that represent the need (shock) within a given community. Factors that impact the individual level are replaced by those impacting the community level. The model shows that the politics of space, and the reproduction of dominant power structures are barriers to addressing spatial equalities across phases of social innovation.

Moulaert and MacCallum (2019:94) explain that in coherent social innovation research "*an ontology is not given but is built up interactively between the actors involved through a joint problematisation process"*. They refer to research methodologies that connect social innovation with participatory approaches to social design, and co-construction in the built environment (Moulaert and MacCallum, 2019). The authors note the similar approach put forward by Manzini (2015) that positions placemaking as a form of inclusive activism, but that Manzini *"does not address the institutional-political context and the socio-political transformative power of social innovation"* (Moulaert and MacCallum, 2019:99). According to Moulaert and MacCallum (2019) the Joint Problematisation Approach (JPA) developed by Miciukiewickz et al. (2012) allows for a symbiosis between a holistic and pragmatist perspective in social innovation (action) research. They write that joint problematisation is about *"the collective problematisation of a social problem… leading to the collaborative design and cocreation of a solution"* (Moulaert and MacCallum, 2019:104).

Within this context, transdisciplinary methodology serves as a *"guide for understanding the complex, multi-scalar and highly contradictory world in which local development and SI initiatives carve out their trajectory"* (Moulaert and MacCallum, 2019:107). The JPA opens up the process of research in the built environment to a *"diversity of relevant actors, views of the world and opportunities for change, yet takes account of the constraints to and assets for development – material, institutional and structural"* (Moulaert and MacCallum, 2019:113). This means making a shift from design 'thinking' to design 'doing', mindful that *"places have specific needs, and their communities are enabled or disabled by specific resources and relations, including their governance system and its potential for socio-political transformation"* (Moulaert and MacCallum, 2019:77). Moulaert and MacCallum (2019) cite examples of a number of European projects where citizens had a say in determining the issues and ambitions for spatial transformation, as well as the measures and mechanisms to realise these.

In his guide to social innovation Mulgan (2019) explains that there are many socially innovative tools available to facilitate common frameworks for place-based community transformation – all involving a level of joint activity in the diagnosis and design of a solution to a given problem, and in monitoring and adjusting interventions over time. He stresses the importance of viewing a problem through radically different frames, and that the ability to facilitate and nudge stakeholders towards commons goals is of significant importance in any participatory design process. Mulgan (2019) presents us with a design approach that may result in very nuanced delivery models, using examples from co-production in the health sector to illustrate models that link formal support of public institutions with inherent resources and social capital within the community itself. He notes that advances in the understanding of the management of a commons and collective goods from resilience studies has much to offer to the research into social innovation (Mulgan, 2019). While participation in planning and architecture has been promoted in Western societies for decades, the evolution of community co-design in recent years has been driven in the community planning area - around public service innovation (Sanoff, 2011; Al Waer and Cooper, 2019; 2020). This notion of co-production leans heavily on user-centred design methodology in software development, where agile development processes mandate close consultation with end-users, supported by feedback loops and open dialogue (Manzini, 2015).

Mindful of theories in literature – such as design thinking and transdisciplinarity – a network develops around a social need, arising from social, economic or environmental challenges. If ideas and solutions are shared across this network, sharing contributes to an overarching framework, or strategy for sustainable development. Based around an open and agile interpretation of this framework, what may emerge is a set of innovative architectures - urban design solutions, digital environments and social service infrastructure that work in concert to promote greater community resilience. This hypothesis – as set out earlier in the thesis - resonates with the view that community and built environment infrastructure should not be designed in isolation but conceived of together in order to develop genuine social value and achieve real social impact.

Social innovation - defined as novel ideas that meet a social challenge - provides a framework to look outside of the established, sometimes restricted domains of single profession, looking to work with others to develop complex, multifaceted solutions that encompass a host of channels, infrastructures and professions (Manzini, 2014; Murray et al.,

2010). Bria et al. (2015) conducted a far-reaching study to extensively document global social innovation initiatives, concluding that while there is an ever-increasing transdisciplinary movement of actors across technology and civil society collaborating on solutions to social challenges, more needs to be done to coordinate these actions and understand their implication for policy making and urban development. Already two decades ago, discourse on sustainability in urban planning and design brought into question the notion of adaptation for sustainability by asking whether we should be trying to sustain a status quo in situations or scenarios were the established modus operandi is no longer *'fit for purpose'* (Marcuse, 1998). This is particularly relevant in the field of the built environment, given the lack of innovation in design, practice and materiality (Johar, 2018) and the fact that the construction industry remains the biggest global polluter after agriculture (Circle Economy & ABN AMRO, 2017). In architecture, sustainability can be viewed by developers both as a costly 'nice to have' and a contemptible hippy concept. In addition, the focus on the planet - a nebulous and often conflicted space - can do little to endear developers.

2.4.1 Social innovation networks

This section focuses on the evolution of the concept of social innovation as a networked, collaborative practice (often enabled by information technologies) that can be cultivated for architectural practice.

To date, the limited scholarship on social innovation networks has focused on knowledge transfer and exchange – and collaboration on social design in the field of design education and management. In the field of social (and spatial) design, social innovation networks are created by *"social design advocates […] to organise designers, coaches and community stakeholders into distributed studios that carry out local, authentic design projects with clients"* (Easterday et al., 2018:69). This could be applied to many types of project-based learning where participants *"devise courses of action aimed at changing existing situations into preferred ones*" (Simon, 1996:111). Alongside this there are several initiatives worldwide that bring together actors working towards scalable solutions to contemporary societal challenges. Writing on transformative translocal social innovation networks, Avelino et al. (2019:2) found that the *literature "often lacks specific attention for how exactly individuals in the context of social collectives are empowered through social innovation"*. In their analysis of several such networks, they found that scholarship *"tends to focus on the existing relations between*

innovations vs incumbent institutions, alternative vs. mainstream, small vs large, niches vs regimes" Avelino et al. (2019:19). Similar to findings in this thesis, they note that *"an important challenge for future research would be to more systematically unpack the dynamic relations between empowerment and (dis)empowerment*", or themes of governance, ownership and participation Avelino et al. (2019:19)

Contemporary collaborative activities are aided by disruptive innovation and game-changing business models - distributed across IT enabled networks, where supply and demand are calculated using real-time data - mean that the world's most dominant mobility firm Uber owns no cars, and the world's most successful hotelier Air BnB holds no accommodation (McRae, 2015). These new models of IT supported commerce are taking us closer to what Rifkin (2015) calls 'the zero marginal cost society' where, as the cost of production falls towards zero, products (and in the case of digital products we are already there) cost virtually nothing to produce (Rifkin, 2014). Social technologies - such as technologies for social interaction - allow people to connect better in both engagement and practice, helping open social innovation to spread, and ultimately building resilience for a community (Bernoff and Li, 2008).

We are already seeing the impact of IT and other technologies on how we collaborate in the design and planning of our built environment. Building Information Management (BIM) and concepts such as 'Building as a Service' are changing how physical architecture is perceived and how buildings are designed for adaptability and sustainability. Above all, new business processes (coming from the world of technology), software development and information architecture are allowing for more agile and iterative design practice, increasingly participatory and inclusive of numerous stakeholders and viewpoints.

2.4.2. Social innovation frameworks

This section focuses on mechanisms for developing social innovation frameworks based on a shared vision and shared outcomes. Multi-agency working toward framework building requires transdisciplinary approach and input from several knowledge areas – tacit and explicit - within a community ecosystem. In looking at frameworks for place-based systems change, Mulgan (2019:102) notes that *"to get the players in a city or sector to collaborate […] will involve some joint activity to diagnose the problem, which then leads on to commitments towards action to solve it".*

Since the United Nations Conference on Environment and Development in Rio de Janeiro in 1992, the concept of sustainability has become an established philosophy for governments worldwide to promote a more balanced social, environmental and economic (less extractive) human development (United Nations, 1992). However, improvements are needed to adapt and apply the philosophy in the challenging context in which we live today. To support the internationally agreed UN Sustainable Development Goals (United Nations, 2015) new and holistic models are required to assist co-production of scalable solutions for communities. These are frameworks – consisting of focused policies and local structures - that can be open and agile enough to generate ownership amongst a diverse group of stakeholders, evoking alternative pathways to urban development. Hopwood et al.'s (2005:49) paper provides a comprehensive reading of different understandings of sustainable development; in particular, it concludes that, *"it provides a useful framework"* which needs to *"be based on appreciation of the close links between environment and society with feedback loops both ways"*, and that *"social and environmental equity are fundamental ideas"*. Missimer et al. (2017) provide an updated understanding of what this means in planning for social sustainability, taking a systems-based approach, and building on a discourse put forward by Robinson's (2004) paper on sustainable development.

Contemporary approaches to sustainable urban planning and design recognise the importance of developing place-based frameworks for development that take holistic social, economic and environmental factors into consideration. Such frameworks are needed because for too long many in the built environment professions - motivated by questionable ethical positions - have worked too closely with commercial actors, facilitating unsustainable development that has exacerbated inequality and encouraged rampant gentrification (Hollands, 2008). In recent years, this close relationship between architects and developers in particular has left many questioning the role of the contemporary architect and their value to modern society (Wainwright, 2014). Conversely, there is little collaboration outside of the design team and even less with communities where development is proposed, the eventual users of these spaces (Vasudevan, 2015). Over the decades, participatory design in architecture has often been tokenistic or occurring too late in the design phase to affect decisions that impact communities (Oliver & Pearl, 2018). The planning system can be bureaucratic and burdensome and requires multiple actors working in unison - under well-defined frameworks - to deliver the type of sustainable development that promotes inclusive

growth. Reasons for this are layers of planning rules and behaviours that have been added to and renovated to accommodate political ideologies of short-termist governments (Greenfield, 2017). Authorities and local governments have often produced plans or strategies that focus exclusively on economic growth as a pathway out of inequity, working towards KPIs and quantitative outcomes that mask multiple indices of social deprivation and structural poverty that cause communities to decline and require regeneration (Greenfield, 2017). The impacts of globalisation - and the inequitable relationships between richer and poorer actors - are manifest in environmental, economic and social shocks experienced by communities worldwide. Planners are destined to repeat the mistakes of the past - slum clearances that produce peripheral ghettos - without a set of new tools and processes that can help them work towards new collective social outcomes, common across a whole ecosystem of community agencies.

Social innovation frameworks include policy instruments, initiatives and tools that can assist decision-making and facilitate collective outcomes – informed by a coherent evidence base. For example, in Scotland, there is a number of community-led, place-based entities such as the Community Development Trusts (CDTs) working towards socially innovation in the built environment. Slee (2019:171) notes that *"public sector agency influences the framework conditions through policy and law"*, in the shape policies aimed at carbon reduction and overarching strategies such as the National Planning Framework 4 (Scottish Government, 2019). Slee (2019:170) found that place is a *"decision variable in the success of certain examples"* and that the *"more place-specific a social innovation, the more limited the scope for direct up- or out-scaling"*.

Tools identified in literature include the Scottish Government's Place Standard (Place Standard, n.d.), sustainable 'smart city' initiatives, and the BREEAM-Communities Scheme affiliated to the BRE Global international Code for a Sustainable built environment (Yates, 2016). These are explained in detail in Chapter 4, alongside the decision-making platform developed by Moscow City Government's Smart Cities team. Such tools differ in their goals and scope, with the Place Standard perceived as too narrow but universally applicable, and BREAAM-Communities detailed but requiring specialist training within a design team. The Moscow example raises questions around genuine participation and community agency. Literature on urban movements shows that *"local initiatives have difficulties in accumulating the sufficient power to dispute the dominant governance practices"* (Chatzichristos and

Nagapolous, 2020:3). Chatzichristos and Nagapolous (2020:18) identified a *"severe lack of intermediate space to link an innovative agenda with higher-state political agendas, and on the other hand an inability to link institution innovation to locally embedded innovation, in the sense of social economy".*

Given the scale of our global problems, theories of urban ecology are likely to have a significant impact on the course of sustainable development in the decades to come (Monbiot, 2017a). In the past, designers have often looked to rigid hard infrastructure solutions to facilitate the growth strategies of post-industrial cities (Childers et al. 2014; 2015). The pursuit of the sanitary city in the twentieth century has left us with numerous legacy systems, hard-to-maintain costly infrastructure (Childers et al., 2015) and over-zealous zoning that separates the functions of a city (Childers et al., 2014). An ecological approach allows us to zoom out and consider an entire city (and regional ecosystem) without differentiating between social, economic and environmental processes (Childers et al., 2014). This stimulates thinking about the impact that certain shocks and inertia may have on communities and urban settlement, in the study of urban resilience (Childers et al., 2014).

The science of ecology offers a number of established frameworks for the study of urban resilience as a topic of transdisciplinary research and a platform for co-producing solutions to cope with transition (Childers et al., 2014; McGinnis and Ostrom, 2014; Ostrom 2007). Literature review identified how the study of urban resilience can be better understood through an ecological lens that recognises the city as a complex adaptive system (Childers et al., 2014; Pickett et al., 2014; McGrath and Pickett, 2011), with associated inertias that threaten the flow of resources (Pickett et al., 2014). McPhearson et al. (2016) list five criteria that define an urban ecological science of and for cities, summarised as follows: (1) Systems focused - considering the relationships and feedback among social, ecological and technical components of the ecosystem; (2) Truly interdisciplinary - not embedded in any single discipline; (3) Participatory - involving different stakeholders and citizens; (4) Multi-scalar - investigation cross-scale interaction, and (5) innovative - incorporating big data and integrating knowledge of urban system dynamics.

For Childers et al. (2015), working toward a vision of ecological resilience in urban settlements means, *"understanding how complex adaptive systems develop and evolve, the role of disturbance and disruption, the drivers of collapse of complex socio-ecological systems, the nature of reorganization after collapse, and the various models of adaptation that permit*

reorganization" (Childers et al., 2015:3779). This type of understanding is heavily informed by Ostrom's seminal work around the management of common pool resources and Harvey's (2011) manifesto on the urban *"commons".* Ostrom (2007) proposed a framework for understanding *"complex, multi-variable, nonlinear, cross-scale and changing socio-ecological systems"* that brings together four categories of variables - based around connectivity and the flow of capital within a system (McGinnis and Ostrom, 2014). The socio-ecological system framework provides a *"metatheoretical language that can be used to compare theories",* where *"the outcomes of interactions in different levels of analysis are explicitly connected to each other"* (McGinnis and Ostrom, 2014:n.p.). In her criticism of Hardin's (1968) approach, Ostrom further defines a set of eight principles that lead to *"successfully managed long-lived and robust commons"* (Araral, 2014:21). These are summarised by Araral (2014:17) as (1) well defined boundaries; (2) congruence between appropriation and provision rules and local conditions; (3) collective-choice arrangements; (4) monitoring; (5) graduated sanctions; (6) low cost conflict-resolution mechanisms; (7) minimum recognition of rights; and (8) nested enterprises.

2.4.3. Social innovation architectures

As above, many of the most valuable approaches identified in literature, propose taking a whole systems approach to social innovation — informed by concepts of environmental, political and social ecology. Moulaert and MacCallum (2019:49) note that many socially innovative concepts are *"situated somewhere between 'practical' approaches to meet needs within the context of a neoliberal austerity policy on the one hand, and territorially embedded social innovation strategies with socio-political transformation ambitions on the other"*. Similar to this thesis, they identified a *"multi-scalar wave of initiatives and their struggles for socio-political impact and change… testament to the power and diversity in the fight for social, political and ecological change"* Moulaert and MacCallum (2019:49). Collated examples of socially innovative spatial design and development is slowly emerging alongside research into open placemaking.

In the latter phases of research, the focus shifted to look at outcomes of social innovation in the built environment, and how they can be best supported sustainably. In turn, literature review evolved not only to look at socially innovative spatial solutions, but spaces for social innovation – manifest in space – as platforms for engaging a wide set of stakeholders

into a mutually-beneficial co-design process. As research for this thesis progressed over phases, several typologies from the past were looked at – that could be considered as social innovation hubs should they exist today. These included looking at American 'settlement houses' of the early twentieth century (Sennett, 2012), and radical communal architectures such as the Soviet social condenser (Murawski and Rendell, 2017). These, as building typologies were identified as ancestors to the *Urban Living Labs* that can facilitate social innovation (dialogue) in urban settlements (Cosgrave et al., 2014). Embedded within the community, these concepts - along with other types of collaborative work spaces, or engagement clinics – provide important foci for in-situ decision-making (co-design) with communities.

In order to be able to challenge speculative development, and devise strategies for resilience, communities also need data - in the form of an evidence base – that considers indicators of social value in public investment. Like the settlement houses of the past, urban living labs provide a model for communities to collaboratively build alternative visions for their future, by engaging with real world problems, building an argument or business case with variable measurable data. The importance of this participatory approach is emphasised by Mason (2016) and Monbiot (2017b), acquiring for the community an *"embodied social knowledge"* (Sennett, 2012) as an important feature in developing capacities for resilience. What becomes clear is that knowledge exchange between disciplines, and collective decision-making based on a large variety of data sources and opinions, are key to developing more strategic plans for growth and development (Acuto et al., 2017). Spaces for social innovation may invite contributions from groups of subject-matter expects through facilitated sessions or co-design programmes - drawing on insights developed in other sectors and knowledge areas in order to identify best practice from outside the realm of the built environment relevant to that community.

Public housing – and innovative typologies of societal mass housing - appears again and again in literature as a scalable solution to persistent poverty and inequality in our society. While there is rarely any shortage of radical or progressive solutions among creative designers, politics often puts obstacles in the way of socially innovative typologies or concepts scaling widely in the built environment. In *The Architecture of Neoliberalism* Spencer (2016:162) presents how a prevailing beliefhat *"the market liberates us for the tyranny of planning",* has meant that architecture, *"has legitimated its alignments with and servicing of neoliberal projects for the reorganisation of labour, education, culture and public space"*. Following

authors such as Foucault (Lemke, 2001), Spencer (2016) sets out how the neoliberal political system – 'an ideology of no ideology' - has packaged its trust in the marker into universal truths about the world – resulting in a tendency in architecture which shares many of its beliefs (Spencer, 2016). Spencer's volume (2016) brings together views of Harvey (2007) and Dardot and Laval (2014) to surmise that neoliberalism acts as mode of power that controls the population, and directs its behaviours – where the state *"is reassigned to a role facilitating the market through the construction of policies and frameworks"* Spencer (2016:13).

This would indicate the part (neoliberal) governance plays to block or support social innovation – *"through which architecture has come to serve as an instrument of control and compliance"* (Spencer, 2016:4). According to Spencer (2016:17), *"the proposition that human individuals can have little knowledge of the world in which they live is fundamental to neoliberalism. The world is too complex and the perspective of the individuals too limited to grasp its working, let alone to presume to direct these"*. Overall, the literature in this area reveals that, *"the discourse of affect in architecture is entirely consonant with neoliberal models of the subject as necessarily ignorant, to the imperative that it give itself over to the trust of processes it cannot, itself, aspire to know or control, to process rendered efficient and sensually appealing through the new architecture"* (Spencer, 2016:10). Literature review also identified a number of short term and temporal interventions – ephemeral architectural solutions that counter the architecture of neoliberalism (Dimitrijević, 2019).

2.5. Chapter Summary

The literature review aimed to identify in the reviewed research outputs definitions of the concepts of social innovation, networks, frameworks, architectures, community resilience, and the relevance of transdiciplinarity in collaborative planning and politics of space for this research. The main identified knowledge gaps are related to the limited research pool of examples and evidence related to past and emerging social innovation networks, frameworks and architectures that can inform research and practice. There is the need for providing additional evidence on the barriers they face and methods for overcoming them – and comparative studies that look at a common set of key indicators (such as health and wellbeing).

There is a lack of research and insights into some past examples of social innovation and explanations as to why they 'failed'. In addition, literature review has not identified comparative studies on the quality of different frameworks in terms of their usefulness in

community engagement and decision-making. Finally, there is also a lack of evidence on different architectures resulting from social innovation, their quality and transferability to other contexts.

The identified knowledge gaps informed the selection of the case studies in this dissertation. Many of the cases explored take place within a politically sensitive context, meaning that in documenting the scenarios the researcher becomes part of these movements toward social change. The hypothesis of network-framework-architecture phases in social innovation provides a model by which other academics can develop research on the process of social innovation in the built environment. The knowledge on each concept is enhanced by examining some past and current examples of social innovation in different socio-political contexts that addressed environmental, social and economic disruptions to provide evidence on commonalities or differences between their development and application.

Chapter 3: Social Innovation Networks

3.0. Chapter Overview

Social innovation—while not a new practice in itself—has re-emerged since the global financial crisis in 2008 as an approach to solving our collective intractable global challenges. Despite its renewed popularity, there is no common definition for the phenomenon, not least in the context of its application when planning the built environment or civic infrastructures. This chapter seeks to position the practice of social innovation as a means for holistic collaboration between disciplines (in a network) to develop sustainable social ecologies and systems that provide for resilient communities. It tests the hypothesis that social innovation develops over phases (feedback loops)—that of the network, framework and architecture phase—to design for social, environmental and economic resilience. It looks to analytical theories emerging in other subject areas like sociology and technology - that could inform its application in a planning context - such as Actor-Network and Adaptive Complexity theories. It explores the mechanisms that provide for resilience through action research and engagement with a number of international case studies and scenarios.

3.1. Introduction

Social innovation is an umbrella term for a host of collaborative actions that employ multidisciplinary approaches to solving the great number of challenges facing communities and urban settlements in the twenty-first century. By definition, it is something that comprises multiple actors working in concert. Until now, disciplines have worked in isolation on very niche aspects of these problems, meaning that knowledge and best practice can become siloed. Following the financial crisis in 2008, there has been a greater impetus on resource sharing and collective responses to planning for sustainability and resilience. This chapter seeks to understand the parameters of networked social innovation and the opportunities for its application in the context of planning and the built environment. Having first explained why social innovation is necessary in the overall literature review (Chapter 2), this chapter introduces social innovation as a design process that aims to increase social, economic and environmental resilience, in practice. Focusing primarily on a network in Christchurch, New Zealand - case studies describe a networked model for holistic social transformation of

communities (as they influence the proposed research methodology). Subsequently, the factors which encourage its incubation, growth and eventual impact of social innovation on community resilience are explored. The main conclusions point to the importance of developing a common vision, purpose and narrative among a diverse group of stakeholders through participatory practice - that may unite a community eco-system around a sustainable framework for inclusive development.

One of the strangest dichotomies that arises in the research on social innovation is the fact that, while a social innovation can present a novel solution to a problem or societal challenge, it is not always adopted, as a status quo might be preferred by more powerful institutions, with environmental, social or economic consequences. Equally, innovation can simply be forgotten over time due to market behaviours or failures in communication or understanding of their value to society. It is no coincidence that the amount of new knowledge and academic literature concerning social innovation is increasing, perhaps as the intensity of urgent global problems grows. Bonneuil and Fressoz (2016) argue that humanity is experiencing a 'cognitive dissonance' from existential threats by refusing to accept and acknowledge the gravity of global imbalances. They point out that the introduction of the atomic bomb in the twentieth century allowed humanity to view the world abstractly, as a commodified whole product. This dangerous materialistic individualism, which emerges in the rituals and beliefs of neoliberalism, renders us powerless to act - whether as individuals or together.

Many modern (spatial) challenges were identified—and even troubleshot with some success—by previous generations, for example, by the left-leaning Situationists of the 1960s (Debord, 2012). Social innovations from this period—attitudes to the commons, collective resources and sustainability—were largely discounted until the most recent climate change narrative emerged following the United Nations Conference on Environment and Development in Rio de Janeiro in 1992 (United Nations, 1992) and the international agreements on climate change, including the one in Paris in 2015 (European Commission, 2015). What is more worrying today, is that in spite of alerts sounding throughout our world-system feedback loops (hurricanes, earthquakes and typhoons all raising havoc for vulnerable communities), public leaders choose to ignore, or even worse, deny these signs (Greshko, 2016), rowing back on internationally-agreed commitments (Deal, 2017) and frameworks for change. Social feedback loops show that the social fabric in the UK (and across the developed world) is collapsing due

to non-strategic procurement, non-user-centred social design policies, and deep cuts into public services. In the UK and across the world, rising inequality and job insecurity are impacting household debt, homelessness and mental health (Quinn et al., 2016). The neoliberal system is broken, meaning that perceived 'growth' no longer brings increases in well-being or life expectancy. Similarly, the financial crash of 2008 was the same alarm bell ringing through the economic system (Mason, 2016). This is a perilous context, even before exploring the impacts of automation and the related growing social unrest caused by neoliberalism's prescriptions, resulting in job losses, identity vacuums and migration. What is clear, as the Anthropocene continues, is that the systems—tools, frameworks and policies—that have worked for previous generations are failing.

The need to work together across multi-disciplinary networks of diverse talent, experience and expertise is pressing, in order to collectively meet the challenges of the twenty-first century. Monbiot (2017a) recognises the need for systems-wide transformation of the kind not offered by Social Democracy or Neoliberalism. Monbiot (2017a:24) argues that by *"reviving community, built around the places in which we live, and by anchoring ourselves, our politics and parts of our economy in the life of this community, we can restore the best aspects of our humanity"*. He proposes new frameworks for reviving community life: based around the commons; participatory models of social enterprise and greater participation in decision-making, *"returned to the smallest political units that can discharge it"* (Monbiot, 2017a:185).

In order to safeguard the planet's own resilience as an 'ecosystem of services' (Costanza et al., 1997) rendered to the world, society must embrace our destiny as humans and 'the supreme cooperators' (Monbiot, 2017a). Therefore, in order to meet collective global challenges, societies should realise the potential for closer, more participatory democracy offered by technology. For the built environment, this is about allowing the public into our professions and working with very disparate professionals and subject experts. The built environment sector has been slow to see the value of technology in allowing for more social innovation in the planning and construction process (Celento, 2007). So far, the great potential of digital technologies has been limited to the design team, using BIM to allow for real-time collaboration between architects, engineers and contractors. This and public-sector policies that promote lean procurement mean that there are ever-increasing interfaces building up between the designers and eventual users of buildings. If digital innovation is not embraced

and adopted in education and practice, there is a danger that another generation of architects will not be able to design buildings that are user-centred or fit-for-purpose.

As a species—in a planetary eco-system—humanity's desire for survival would seem inherent. At every juncture of social development, challenges were met with new forms of association, legal innovation and behavioural change. Although to some degree, rampant individualism means that capacity to absorb current changes may be somewhat diminished. The question is whether the world of policy and governance is able to facilitate the opportunities for social innovation, and whether in the context of the built environment, the same mistakes will be repeated as when unquestioned rationality and straightforwardness—devoid of any humanity—were imposed by urban zoning, practice and order-obsessed planners (Jacobs, 1961). Modern architects are allowing a narrow set of criteria or technological algorithms to dictate how and what can be designed, as was done when strict rules and orthodoxies around planning and community development were defined from the late nineteenth century onwards (Jacobs, 1961).

As revolutionary ideas for community solutions continue to be thwarted (Murawski, 2017), often by restrictive boundaries of inflexible planning policy or development incentive, how can technology best provide for holistic social innovation for communities? The power of the network in the context of place-making, supported and energised by technological innovation, is already becoming clear (Horgan, 2020). Organisations such as Opendesk and Wikihouse— incubated within the pioneering socially-innovative architecture practice *Architecture 00* —are demonstrating distributed models of design, informed by the type of community-led agile development behind Wikipedia and the Linux operating system. A glimpse of Jeremy Rifkin's 'zero marginal cost society' (Rifkin, 2014) is seen in the knowledge exchange that occurs within these and other networks. In his book, Rifkin (2014) quotes Eben Moglen (1999:n.p.), echoed across modern economic literature, who noted that the development of the Linux kernel demonstrated that it was *"possible to aggregate collections of programmers, far larger than any commercial manufacturer could afford, joined almost non-hierarchically in a development project ultimately involving one million lines of a computer code",* and admitted *"a scale of collaboration among geographically dispersed unpaid volunteers previously unimaginable in human history"*.

What is constant among these challenges in the twenty-first century is that they have emerged due to a toxic combination of neoliberal policies and extractive modes of production since the industrial revolution (Rifkin, 2014; Monbiot, 2017a). The impact can be seen in rising levels of inequality (Wilkinson and Pickett, 2010; Monbiot, 2017a), the effects of anthropogenic climate change (Bonneuil and Fressoz, 2016), and a broken and dysfunctional economic model, based on a pseudoscience (Earle et al., 2016). We have been here before, in particular some progressive post-war societies of the 1960s were adept at developing new and often co-operative models for creating more equal, often utopian societies (Wilkinson and Pickett, 2010). Between the two World Wars, many new forms of government, which had emerged from the upheaval of disintegrating hierarchical European empires, brought socialism and its collective infrastructure. Even before this, the social chaos caused by the industrial revolution itself, colonialism, and the rapid urbanisation of many societies, saw a raft of new social innovation—from the concept of the 'weekend' to the trade union.

The benefits of collaboration as a means of problem-solving are well understood (Monbiot, 2017a). In the last decade, the concept of social innovation has reached maturity, becoming central to policy development and strategic planning for organisations such as the United Nations Development Programme (UNDP) (United Nations Development Programme) and the European Commission (EC) (European Commission, 2014). Multiple definitions have existed over this period, while consensus over how to define the practice is still to emerge. In the UK, organisations such as the innovation foundation Nesta and The Young Foundation have supported pioneers in the field of social innovation, like Indy Johar and other architects, part of a community of practice which has begun to coalesce around a common understanding of the potential and impact of social innovation - and in particular what it may mean for a more participatory process in place-making (Nesta and Young Foundation, 2008). Anecdotally at least, it would appear that architects are well represented in the field of social innovation, partly due to the timing of the recession and its impact on built environment professions, and partly due to a uniquely transferable skillset. Johar (2017a:n.p.) laments the fact that *"institutional renewal for society has not materialised out of the social innovation field so far"*. Until now, social innovation has been concerned about *"tinkering and fixing at the very edges"*, and has not brought about the type of wholesale systems change that prevailing global challenges call out for. Johar (2017a:n.p.) believes that we need to *"rewrite the models of change"*, moving from a position that is *"sector focused to place focused"*.

As a profession, architecture has lost its social contract with the general public through decades of opaque partnerships with developers and the market (Wainwright, 2014). Many of our great challenges—those of housing, homelessness and community displacement—are direct outcomes of the failure of the profession to affect public policy. This chapter is a first step in this thesis to identifying the pathways through which the built environment professions can most effectively participate in social innovation collaborations, and steward social value into resilient communities through responsive civic infrastructure and architectures. *"Architecture"* is defined as *"the complex or carefully designed structure of something"* (Oxford Dictionary), not only of the physical architecture of the built environment, but also of emerging non-physical architectures such as online portals, community platforms and digital experiences. This double meaning for architecture, to convey non-physical structures and concepts, is evidence of the commonalities in designing for physical or digital spatial experiences, and to new frontiers for the profession to address.

The first phase of research focused on the smallest, **network** scale, and identified three scenarios on which to focus, engage and conduct research:

1. *Social*—Dublin Docklands, Dublin, Ireland
2. *Economic*—Recife, Pernambuco, Brazil
3. *Environmental*—Christchurch, Canterbury, New Zealand

The researcher has maintained contact with these networks through engagement via email and social media. This could help to inform future (comparative) studies that examine aspects of "Robustness, Rapidity, Resourcefulness and Redundancy", as mentioned by Jung (2017) in literature, referring to the work of Bruneau et al. (2003) and Norris et al. (2008)- with respect to these and other cases identified later in the course of overall doctoral research.

3.2. Case Studies on Social Innovation Networks

This section of the chapter presents initial findings on social innovation networks based on engagement-led ethnographic inquiry. As evidenced through literature review, there is a clear consensus among academics on the value of networks for social innovation in the context of planning (Andrew and Carr, 2013; Feiock and Scholz, 2009; Jensen and Tollin, 2004). Rifkin (2015) recognises their value in transitioning to a new economic system, built around the Commons and references the work of Benkler (2006:470), who states that in order *"to flourish,*

a networked information economy rich in social production practices requires a core cmmon infrastructure, a set of resources necessary for information production and exchange that are open for all to use". The research considered three types of networks, each responding (not exclusively) to an overarching need or challenge—environmental, social or economic—and has selected relevant case studies for each of these.

3.2.1. Social Networks— Dublin Docklands, Dublin, Ireland

Dublin is a post-industrial centre, with a historically large port community with associated generational social challenges. The city has experienced rapid growth and change in recent years, with many communities feeling left behind. In the Dublin docklands, growth and regeneration have negatively impacted indigenous communities and have acted as barriers to social mobility and wealth distribution (O'Brien, 2013; Haase and Pratschke, 2016). The research is undertaken through direct involvement in a number of projects - in these areas that seek to improve social outcomes for communities through network-based collaboration - as a strategic consultant. This includes work to establish the *Dublin Docklands Cultural Forum* (DDCF) to manage a collective vision for change in that place. This work entailed designing and conducting strategy workshops to define the scope of the network, broad thematic areas and their audiences. The network was invited to represent community and cultural stakeholders on the Docklands Oversight and Consultative Forum (Dublin Docklands, n.d.), which advises Dublin City Council and their strategic policy committees on proposals for the Dublin Docklands Area. Work is ongoing on the next stage of engagement to solidify the network through a web-based platform and target partnerships and events. The network is an important stakeholder in several projects looking to develop built assets in the area through the regeneration of the existing fabric. Some years later, inadequate local government support has prevented the DDCF network from establishing itself as an agent for sustainable change – despite network activities and community engagement.

Considering that a social network needs to be supported by infrastructure - start-up accelerators (programmes to support new business formation), policy, business models, forms of association, new roles and partnerships, a coherent brand or presence within the community and prescribed audiences - an established ecosystem to support social innovation, participatory dialogue and social enterprise must be in place in order to allow communities to take advantage of existing government supports. In Dublin, this is currently being put in place,

Fig. 1. Meeting of the *Dublin Docklands Cultural Forum*, Dublin, Ireland, (Horgan, 2016).

Fig. 2. Community protest at speculative development in the Dublin Docklands, Ireland, (Horgan, 2016).

and can be advantageous where communities need to demonstrate robustness and capacity in conversation with private developers, government agencies and other stakeholders (Burns, 2019; Mulvey, 2017). The work of the Transition Town movement — which inspired network-building in the form of Transition movements across the world (Transition Network, n.d.) provides an important precedence here. As outcomes from the Dublin network are few and far between, it has not been possible to coherently evaluate the outputs of socially innovative actions of the communities for this doctoral thesis. Future research could examine the challenges faced in establishing the network, and response to these.

3.2.2. Economic Networks—Porto Digital Network in Recife, Pernambuco, Brazil

In Recife (in the state of Pernambuco), a network around *Porto Digital* emerged out of a need to respond to a brain drain, where local authorities were facing challenges to retain a highly educated set of technology graduates (Pearson, 2014). A distributed technology park, dotted within a set of previously decaying colonial port buildings, has grown into as a thriving creative ecosystem for entrepreneurs, impacting public policy and development strategy through a bike scheme and other socially innovative actions (Colares, 2012). *Porto Digital* has an international reputation, both as a network for innovation and as a widely praised means for regenerating post-industrial communities (Zouain & Plonski, 2015). Of the networks studied for this phase of research, this network has had the most success in bringing about a sustainable mechanism for development – presumably due to a much closer alignment between the network and enabling stakeholders from both the private and public sectors.

During interviews with two key stakeholders from *Porto Digital* - their strategy and business liaison officers who created the innovative ecosystem there - respondents were asked to outline the context of need for social innovation in the city of Recife and what drove the establishment of the *Porto Digital* network. Both respondents pointed to the economic challenge of brain drain and the impact it was having on wealth creation and urban development. The next set of questions pertained to how the network was formed, its shape and governance structure and how it worked with partners in the private sector and the local authority. The organic nature of development, was emphasized here, where technology startups were grown in the *Recife Center for Advanced Studies and Systems* (CeSAR, n.d.) business incubator, and allocated a specifically renovated building as their needs and spatial requirements grew. A final set of questions was put around the social impact and legacy of

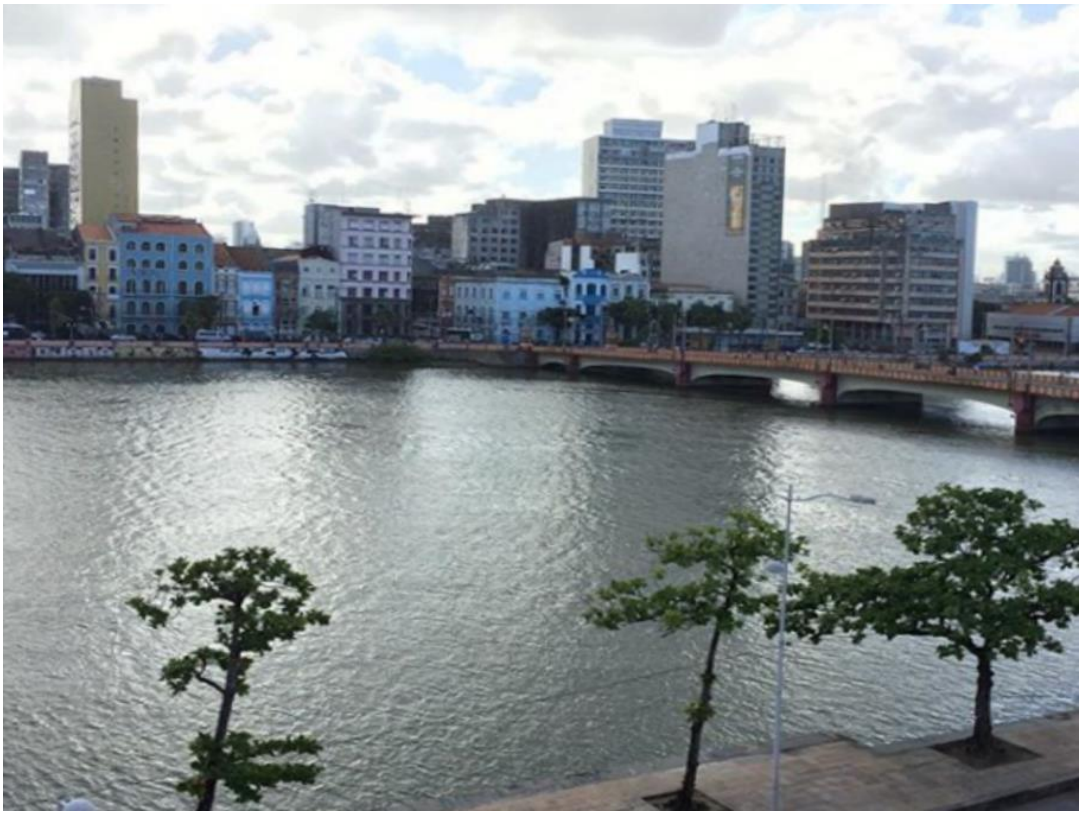


Fig. 3. View of old port area from downtown Recife, Brazil, (Horgan, 2016).

Fig. 4. Building awaiting refurbishment in port area of Recife, Brazil, (Horgan, 2016).

Porto Digital, in terms of both the local community and its role in inputting into strategic urban development with local government—both of the city of Recife and the State of Pernambuco—through the establishment of *Agência Recife para Inovação e Estratégia* (ARIES), a strategic planning spinout. The holistic—and strategically phased—and responsive development model, which was born at *Porto Digital* has inspired regeneration strategies for elsewhere in the city and surrounding region (Prefeitura do Recife, n.d.). An economic network needs to be united around a common vision, and an agreed set of measurable outcomes or impacts for the place and community. In the case of *Porto Digital*, the impacts of graduates leaving the city for jobs in São Paulo, alongside issues of crime and public safety, came together to provide an impetus for a diverse cross-sector cohort to work together (Zouain & Plonski, 2015). Deeper analysis – and comparison with other networks – may identify impactful policy frameworks and particular reasons for success in Recife.

3.2.3. Environmental Networks—Christchurch, Canterbury, New Zealand

Two earthquakes of magnitude 7.1 and 6.3 hit this area in 2010 and in 2011 respectively. 80% of buildings in the Central Business district were damaged beyond repair, with a demolition cost of around $1.5 billion (Canterbury Earthquake Recovery Authority, 2012). The cost of rebuilding has been estimated at around $30 billion, with additional costs such as business interruption, inflation, new standards, etc. Five years on in 2017, the research investigated how social innovation in the built environment was beginning to influence strategies for a resilient, regenerated Christchurch. Interviews were conducted in Christchurch in April 2017 to understand the engagement around the resilience context of the Canterbury earthquakes. Through these and mapping exercises, it was possible to comprehend how the networks built up around a pressing need, i.e., the consequences of the earthquake.

A number of interviewees were selected through engagement with key local stakeholders— architects, historians, social scientists and community organisers from organisations such as *Studio Christchurch, Ministry of Awesome, FESTA, Regenerate Christchurch, Ōtākaro Orchard* and *OHU*. Each interview followed a predefined structure encompassing a core set of questions, which were put to each stakeholder identified among the ecosystem working to regenerate the city. Initial questions focused on the motivations for collaboration—almost all respondents highlighted the need for building connections between the 2011 Canterbury earthquake survivors as a support mechanism for dealing with the trauma

in addition to pooling resources and developing recovery strategies. Respondents were asked about **governance** - the shape of the network, what members and professional capabilities it contained, and how forms of governance emerged to strengthen the network as a result of their conversations with the local authority and other state agencies. The next set of questions focused on **ownership** – and how communities felt able to further the social innovation that emerged from collaboration—the ideas matrix, projects and prototypes, how they were tested and evaluated by stakeholders, and what challenges they faced in realising more sustainable implementation of these prototypes within the wider community in Christchurch. Lastly, questions were put to respondents around **participation** - the barriers to participatory collaboration, co-design and working with more traditional processes in the public sector, how to overcome challenges and the ideal delivery mechanisms for regeneration. Questions were also asked around the legacy of the network and how successful it is in enacting change.

The interviews indicated the resulting social innovation - technology, new models for change, governance and transformation - that emerged, along with the challenges that the networks have faced and how they are impacting strategies for renewal and redevelopment (Reynolds and Waretini, 2016). The most important lesson from Christchurch is the value of prototyping—through agile and flexible programmes, "meanwhile" uses and temporary structures—in developing new and socially innovative physical architecture. The legacy of the *Festival of Transitional Architecture* (FESTA), now a biennial event creating a collective positive experience for the people of Christchurch and visitors) in developing a culture of prototyping in the city is well documented (Hess, 2016). Organisations such as *Gap Fillers* (Gap Filler Project, n. d.) and the *Ministry of Awesome* (built up to support new models of social enterprise and entrepreneurship) have crystallised into profit-making stand-alone agencies with delivery contracts for the local authority. One of the most interesting aspects of what emerged in Christchurch is the establishment of a dedicated strategic layer, Regenerate Christchurch, to sit between the local authority and regional government, and acting independently to reduce barriers and bottlenecks in delivery caused by restrictive planning policy. Senior architects migrated from Christchurch Council into this new entity in order to effect change and bring projects to fruition. As part of this, a new programme of community engagement and participatory design was initiated (Regenerate Christchurch, 2017), which is focused on developing solutions for the Red Zone (a large, residential area of

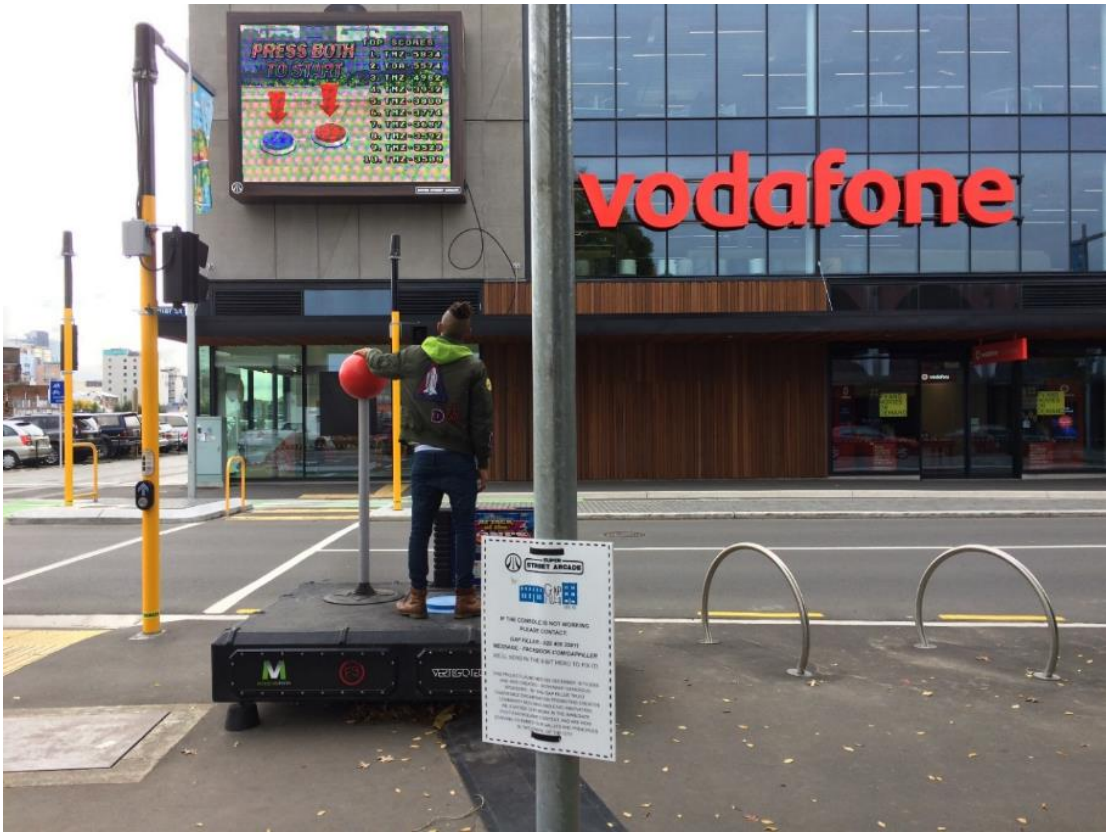


Fig. 5. Transitional urban design in Christchurch, New Zealand, (Horgan, 2017).

Fig. 6. Spatial prototyping in Christchurch, New Zealand, (Horgan, 2017).

Christchurch, which experienced intense damage and liquefaction in the 2011 earthquakes). Momentum has since stalled, and it was announced that Regenerate Christchurch is to be wound down in 2021 (Hayward, 2019).

Socially innovative projects, which would otherwise find it difficult to be accommodated under older planning policies (such as Ōtākaro Orchard, a local food resilience movement), are to be accommodated within the Red Zone. The social ecology of the food resilience network, and its resultant ethos (value system) around incremental development, connecting the right actors and ingredients to develop a complex interdependent ecosystem, is an important driver of these projects. Openness, transparency and a dialogue with stakeholders ensure that strategy is continuously improved upon through established communication channels and feedback loops. More importantly, it is through the process of socially-innovative regeneration itself that the skills are acquired among the community to truly enact change. The newly established community-practice *Ohu Development* (Office for Holistic Urbanism, n.d.) defines its purpose: to 'build communities by building buildings' by enabling communities to develop assets which will financially strengthen their organisation. One negative aspect, however, is the time it has taken to build up the right capacities and establish a culture of social innovation, where actors can make a positive change and profoundly shift some of the fundamental institutions that remain steadfast in the way of innovation. McCrone (2017) asked whether Christchurch had missed its chance to develop a truly socially innovative, user-centric infrastructure for the twenty-first century, and instead, burdened by lack-of-vision and bureaucracy, as a community representative put it, "rushed to build the last version of a 20th Century city ever to be constructed" McCrone (2017). The latest engagement with stakeholders revealed that the network has fragmented to a lack of funding support, and competition for legacy investment in Christchurch.

In establishing *Regenerate Christchurch*, the government did go some way initially to provide a mechanism for transformation outside of the current regional/local government structures. Ultimately, policy failures have contributed to that vehicle being discontinued and the negative impact this is likely to have on the network of social innovation on the ground. Looking past the network, to that which enables innovation to flourish and can provide a policy context for social innovation in the built environment.

All over the world, communities are hosting pilots and prototype projects around concepts such as Universal Basic Income, Circular Economy (Wijkman, 2015) and cooperative

models for social housing and social enterprise (Johar 2017b). As the research evolved, the characteristics of impactful networks—and what this means for community-led holistic planning practice—has been further understood. The discussion continues in Christchurch as to whether opportunities have been missed in designing the regenerated city to build on the engagement at the grassroots level, and build sustainable modern social infrastructure agile enough to promote resilience.

3.3 Chapter Summary

For the initial phase of research, effort was concentrated on understanding how networks contribute to social innovation in the built environment. Preliminary research in Recife identified a process in which stakeholders and organisations form a network, with which to develop frameworks – and strategies – for transformation. Subsequent research in Dublin and then in Christchurch verified how network approaches make best use of shared skills, acumen and resources sharing the risk and rewards of collaboration. What was immediately apparent from this phase was that while differences exist in terms of network dynamics – roles and behaviours – a supportive ecosystem must be in place in order to progress network activities toward framework building, and work towards shared outcomes for place. Network building across all the cases (and indeed subsequent ones) came about to address a need in society, problems and spatial inequalities. In the network cases, urban regeneration is pursued by the local government, in response to a social, economic or environmental shock. Findings from the cases indicate that while networks that grow from the grass-roots are good for improving democratic participation in the design process, top-down networks are more successful in bringing about change. However, aspects such as locality and embeddedness, and values and approach are important to facilitate consensus building.

Ultimately the ability of these networks to produce social innovation is dependent on whether the network has tacit government support. Developing the capacities required by networks to achieve resilience, means putting supports in place to facilitate open policymaking – funding agile experimentation, prototyping and engagement (in co-design). Supports depend on government will and funding – allowing networks greater autonomy in decision-making. In Recife, the network has strong government support and funding, allowing it to create ambitious education programmes, and fund physical regeneration, and buildings to house start-ups. In Dublin and Christchurch, while ideas, strategies and prototypes have emerged at

the grass roots, a lack of (local) government support has meant that ideas have not translated into durable, sustainable spatial solutions. Specifically, in Christchurch, where a number of innovative spaces and social enterprises emerged during the immediate aftermath of the earthquake, bureaucracy and funding challenges have stopped these from becoming a sustainable legacy of co-production. The network in Christchurch has fragmented as a result, and in the case of Dublin, the network never truly got off the ground at all. Only in Recife – where the network has strong public and private sector support – has the network grown into a robust and transformative ecosystem.

Literature review identified how the level of participation in collaborative planning exercises has a direct impact on the sustainability of social innovation produced. Among the case studies, the political context of social innovation in the built environment is immediately evident. Social innovation actions based around culture or enterprise are successful at engaging stakeholders, but control of the delivery process must also be devolved to the community in order to build lasting resilience. This is evident in Recife's distributed ecosystem, but also in Christchurch, where the fruits of the social innovation process have become over ripe, and spoiled. Support from the governance system has enabled the network in Recife, while smothering the one in Christchurch. The absence of support in Dublin has only served to empower those who pursue speculative routes to development, and ignore the persistent concerns of locals.

What can be concluded from the above is that community, entrepreneurial and capacity building must be supported by governance that addresses power imbalances in decision-making, in favour of communities. All phases of investigation are guided by common themes – ownership, participation and governance - that can prevent or enable holistic approaches to planning, and coordinated or collective collaborative actions by multiple agencies in expert-led problem solving. Tools that enable open decision-making are explored in the next phase of research. Case studies are provided to illustrate where policy frameworks and innovative systems or mechanisms have allowed communities to make more democratic planning decisions. The next chapter in this thesis will look at these approaches alongside others, manifest as policy or programme instruments to underpin inclusive growth - and to the resulting plans, strategies and physical architecture solutions, as well as the supporting social service infrastructure.

Matrix of research findings, showing key facts from *network* case studies:

	NETWORK		
1. Category	Social	Economic	Environmental
2. Location	Dublin Docklands, Ireland	Recife, Brazil	Christchurch, New Zealand
3. Problem - Needs addressed	Speculative development, Gentrification, Regeneration, Housing crisis, Social isolation	Brain drain, Regeneration	Earthquake, Regeneration
4. Brief description of social innovation action	Network building, Cultural programme	Network building, Incremental regeneration, Start-up ecosystem	Network building, Crowdsourced planning, Prototyping Space
5. Stakeholders involved	Dublin Docklands Cultural Forum, Dublin City Council, Stakeholder ecosystem, Citizens	Porto Digital, Prefeitura de Recife, Cesar, Estado do Pernambuco, Companies, Citizens	Christchurch City Council, Canterbury Region, Regenerate Christchurch, Stakeholder eco-system, Citizens
6. Engagement methods	Bottom-up	Top-down	Mixed
7. Barriers encountered	Politics, Governance, Funding	Ownership, Participation	Politics, Ownership, Governance, Participation
8. Methods for overcoming the barriers	Engagement	Engagement, Increased participation with government	Engagement, Increased participation with government
9. Support from the governance system and its effect	Minimal – Negative	Significant - Positive	Significant – Negative
10. Initial and/or long-term solutions/outcomes of social innovation actions.	None	Measurable social and economic benefits, Number of strategic plans	Bottom up strategy for regeneration – not adopted by regional government

Table 2. Key facts from case studies on social innovation networks

Chapter 4: Social Innovation Frameworks

4.0 Chapter Overview

This chapter considers what models, frameworks and policies can engage a wide set of stakeholders into a mutually-beneficial co-design process. This first section concentrates on tools and technologies used for participatory processes that enable sustainable urban planning. The second section looks closer at environmental frameworks for same. In this section, Scotland's *Place Standard* framework, the *BREEAM-Communities* assessment tool and the recent Smart City technologies for co-production in urban design are analysed through literature review. *Aktivniy Grazhdanin*, a citizen engagement portal, established to devolve decision-making on aspects of Moscow's urban planning to citizens, provides a case study on the potential use of online tools to solicit citizens' views on the city management and transformation.

Tools were selected as they provide participatory frameworks for developing consensus among decision makers and stakeholders on planning strategy, but use different methods - Scotland's Place Standard initiates a dialogue with interested groups; BREEAM-Communities includes a consultation with stakeholders at a later stage; and *Aktivniy Grazhdanin* attempts to solicit stakeholders' views through an online platform. This section examines the strengths and weaknesses of the analysed tools, and offers recommendations on how frameworks can be best shaped by such tools to achieve local ownership and provide structure for a more inclusive urban planning. It highlights comprehensive criticism in the research of Kitchin (2014) and Angelidou and Psaltoglou (2017) to bear in analysis of the Moscow case study – around identified themes of ownership, governance and participation.

Characteristics and some limitations of all three approaches are critically presented. Action research was a means for developing the case study in Moscow, the basis of which was informed by criteria identified by examples from the literature review. Included from the literature review, the Place Standard, a conversational tool, and BREEAM- Communities Assessment, a paper-based assessment tool, are examples of inclusive approaches to city planning. When viewed alongside the Moscow case, the failures of a more technological - but perceived to be less open - approach begin to surface. Engagement in real-life means that relationships are developed among stakeholders and organisation through the act of achieving

a consensus in a participatory dialogue. Findings from action research share an ontological language with the "Social Grid Model" as developed by Beckert (2010) and extended by Von Jacobi et al. (2017). Similarly, the Social Grid Model recognises the interconnections between networks, cognitive frames and institutions (Beckert, 2010; Von Jacobi et al., 2017). Action research methods used in Moscow are described in more detail within the part on the case study itself.

Alongside the potential of technology to provide open frameworks for decision making in the planning of urban settlements, this chapter also looks at how ecological frameworks support strategies for building community resilience. The later section introduces the concept of an ecology for cities, and brings together knowledge from resilience sciences that emphasise development approaches centred on the Commons. The work of Elinor Ostrom is considered alongside a past example of the sustainable management of common-pool resources from Gaelic Ireland. Within that research context, we find novel approaches to planning in the built environment - informed by an ecology for cities - that may inform contemporary scenarios. Learnings are then applied to a case study from Chicago, USA, where a community is seeking to build an energy commons.

4.1 Introduction

Since the late nineteenth century, the profession of planning has advanced in order to develop advocacy and guidance for both communities and developers engaged in urban design and place-making. Across the developed world, behaviours that govern actors involved in spatial development in order to safeguard public assets and community cohesion have evolved – for better or worse (Wainwright, 2014). Often planners have sought solutions to society's ills - poverty and ill-health - through the development process, placing their faith in the bricks and mortar of buildings (Jacobs, 1961). They sometimes ignore the root causes of social deprivation in order to respond to shifting short-termist public policy context at the time of urban development planning (Finger, 2018; Greenfield, 2017). Early twentieth-century visionaries such as Ebenezer Howard and Robert Moses looked to mega-development projects and grand gestures as mechanisms for regeneration and rebirth in communities, developing new language and professionalism to build the theory of their practice (Jacobs, 1961).

4.2 Tools and mechanisms for place-based frameworks

Contemporary tools and mechanisms that support the building of place-based frameworks rely on building a consensus among stakeholders – local government planners, their partners, sectors and citizens - for social and spatial transformations. Increasingly, these tools are developed by policymakers to help align objectives for development around outcomes for inclusive growth, health and well-being. Tools such as Scotland's *Place Standard* help stakeholders map ambitions to a host of areas, while others such as *BREEAM-Communties* help developers to understand the impact of design decisions on wider society. Technological innovation has driven the development of a number of new ways to engages citizens themselves in decision-making – around public budgeting or development – such as *Aktivniy Grazhdanin*, in Moscow.

4.2.1 Scotland's Place Standard engagement tool

UN Sustainable Development Goals (SDGs) (United Nations, 2015) are translated into overarching national policies used by local agencies to develop specific targeted and contextual local development strategies. In the case of Scotland, the UN SDGs have informed Scotland's SDGs (Scottish Council for Voluntary Organisations, 2018), expressed as vision statements in Scotland's National Outcomes (Scottish Government, 2018b) and Scotland's Third National Planning Framework (Scottish Government, 2014). These policies are supported by legislation under the Scottish Government's Public Engagement and Consultation, Community Empowerment Scotland Act (2015) (Scottish Government, 2015) and set against National Standards for Community Engagement (Scottish Government, 2016) which mandate a level of community engagement and participation on development projects. In response, tools such as the Place Standard have emerged as a method to engage citizens to assess their settlements and prioritise local goals aligned to overarching global and national sustainable development policies. The Place Standard, a tool which was developed with planners and architects in Scotland, *"lets communities, public agencies, voluntary groups and others find those aspects of a place that need to be targeted to improve people's health, wellbeing and quality of life";* provides *"a simple framework to structure conversations about place"* and takes a long-term view of sustainability, encompassing a number of domains - including local economy, public transport, and housing - allowing distinct and separate organisations to work together productively (Place Standard, n.d.). Along with economic and spatial aspects, it has been

designed to consider social aspects - health, welfare, work and community – by measuring, for example, whether citizens feel empowered in local decision-making. The tool prompts discussion among stakeholders, helping to identify assets and resources within a community as well as challenges and areas for improvement. The Place Standard is used primarily as a sustainable development assessment tool that allows communities to take a zoomed-out holistic look at place and identify priorities for social innovation, based on a clear and measurable set of indicators. The tool is used *"to assess the quality of a place"* undergoing transition and planning for change, or for an established community. It is a simple tool that consists of 14 themes covering both the physical and social aspects of a place, allowing participants to identify potentiality, and support design and delivery. In this way, the Place Standard works as a tool with which to define barriers and opportunities for social improvement that could be brought about through specific projects or strategic interventions.

In Scotland, communities who are seeking to embark on a journey of regeneration or physical improvement are encouraged to use the Place Standard, often with the support of Planning Aid Scotland through workshops and charrettes (Planning Aid Scotland, n.d.). By using the tool to interrogate project outcomes, development proposals are ideally more balanced, achieve community buy-in and generate ownership among stakeholders. Scotland's SDGs are more precisely defined at a local level through the tool, resulting in a local development plan (LDP) - framework – once shared outcomes have been agreed in terms of a development approach. In this way, the Place Standard tool is part of a process of sustainability and not an end in itself. It is a way to develop priorities for places, a value system and consensus around a collective strategy for improvement (Place Standard, n.d.). The tool helps community ecosystem comprised of multiple actors to collaborate, plan for and measure social impact. The tool is now being used by the National Health Service (NHS) in Scotland as a methodology to scope, measure and evaluate policy interventions in health (Scottish Government & Architecture & Design Scotland, 2017). By focusing on themes of health and well-being in a place - themes which are important to all stakeholders - the Place Standard, as a tool, facilitates discussions on a local level about those goals. As a way to build common bonds and understanding between citizens and groups, health and well-being are a powerful proxy. An overarching strategy to improve outcomes for health can impact design decisions for both the public realm and public services and help translate high-level policy ambitions into measurable compliances in a brief or design document. A city that proposes an overarching policy based

around wellbeing also encourages the development solutions that give advantage to wider innovation in healthcare or technology, often bringing in solutions from other sectors that have never been applied to the built environment. It can be said the Place Standard is a comprehensive tool for engaging communities in decision-making about local priorities for social improvement. The Place Standard is used comprehensively by Planning Aid Scotland (PAS) as a bottom-up engagement mechanism in their work with communities regarding local planning issues and extensively in workshops and public consultations (Planning Aid Scotland, n.d.).

The Place Standard has been rolled out across a number of development projects in Scotland since 2015, and has been closely evaluated during the first years by Scottish Government (Scottish Government & Architecture & Design Scotland, 2017). NHS Scotland are working with Architecture and Design Scotland and Scottish Government on the implementation of the Place Standard, alongside key partners including the Improvement Service and Glasgow City Council. A report in 2017 listed 65 separate instances of Place Standard being used across Scotland between December 2015 and February 2017 - reaching over 11,000 citizens in Scotland, across 22 local authorities (Scottish Government & Architecture & Design Scotland, 2017). The Place Standard has been applied in many different contexts and a variety of ways. It has been used most commonly to facilitate community engagement to inform local planning (e.g. development of locality plans) or strategic planning (e.g. master-planning or to inform a council's strategic plans).

While the Place Standard was developed in albeit a top-down-way, it opens a line of dialogue for bottom-up engagement. While open to abuse in practice, it has succeeded as a tool that promotes collaboration among quite disparate stakeholder groups - often with quite distinct positions - allowing them prioritise shared (and measurable) outcomes for transformation of place. Overall the tool has been well-received as an aid in aligning ambitions within a community network (ecosystem), particularly within the context of community engagement, owing to its universality and ease of use. In particular the Place Standard diagram was *"perceived to be a powerful representation of place that could be used to direct actions"* (Scottish Government & Architecture & Design Scotland, 2017). The report found that aligning the engagement process to strategic decision-making achieved most buy-in from stakeholders, helping them to arrive at a shared consensus (Scottish Government & Architecture & Design Scotland, 2017). This said, however, as a tool with which to organise strategic actions, it

requires further refinement. Managing and organising respondents' data can be resource intensive and ambiguity arises when using the tool over roles and responsibilities for individuals and organisations in taking forward actions (Scottish Government & Architecture & Design Scotland, 2017). It is important to emphasise that Architecture and Design Scotland see the use of the Place Standard as a process, and that qualitative insights obtained through the use of the tool are important to identifying priorities (Scottish Government & Architecture & Design Scotland, 2017). A significant challenge identified through the Scottish Government evaluation was to ensure community engagement is representative of the whole population in a place and that future efforts seek to support engagement with those who are most marginalised and under-represented as a precursor for reducing inequality and promoting inclusive growth (Scottish Government & Architecture & Design Scotland, 2017). However, it must be stressed that the Place Standard is in itself a prototype and should be refined in an open co-development process with communities and user groups. Viewed alongside digital engagement tools (that are appraised later in this section) the value of the Place Standard is how it facilitates face-to-face conversations.

4.2.2 BREEAM-communities assessment tool

The Building Research Establishment (BRE) has developed BREEAM-Communities (BREEAM-C) as a development assessment tool to help developers and private sector stakeholders to take sustainability concerns into account. It contains a compulsory consultation component in order to ensure the "needs, ideas and knowledge" of communities are taken into account during the detailed planning stage of a development (Building Research Establishment, 2012). Community participation in BREEAM-C is required to certify the master planning process (BRE, 2012; Oliver & Pearl, 2018). The tool defines a number of domains and sets of indicators in order to assess the quality of design in terms of the social, economic and environmental impacts of development on a community. BREEAM-C, however, is primarily envisaged to help a design team engage with sustainability issues in the early design phase of a development project.

Oliver and Pearl (2018) looked at how the BREEAM-C tool was used by the developer of a large mixed-use new build project at Masthusen in the Swedish city of Malmö, focusing on its role in facilitating community consultation and participation. The study found the tool to be limited, *"as a certification tool used solely by the developer, as opposed to a tool that could bring together the City of Malmö, community groups and the developer in a synergistic project"*

meaning that it was *"limited to focusing on achieving sustainability outcomes within the boundaries of its site"* (Oliver & Pearl, 2018:520). The study found that the tool, which focuses on product outcomes in the design process, *"had a limited impact on empowering the immediate and surrounding communities and creating a synergistic, integrated design with its surroundings"* (Oliver & Pearl, 2018:525). This was owing to the fact that tool was said to employ a *"limited definition of community"* and was employed too late in the process, meaning that consultation had no impact on the design (Oliver & Pearl, 2018). These observations point to the need to engage communities early in the design process – with community focused tools like the Place Standard, and to use these to facilitate a common vision or strategic mechanism for development across an ecosystem of competing stakeholder positions (developer, local government and community). This would help prevent engagement exercises that are no more than box-ticking for communities.

4.2.3 The smart city collaboration mechanisms

The Smart City concept promotes cross-sector collaboration and partnership among stakeholders within a place to develop collective strategies for social innovation. The concept emerged in the early 2000s as a means for collecting data by using sensors, Information and Communication Technologies (ICT) and Internet of Things platforms that can inform better management of cities' services. It has been aggressively marketed by technology companies to cash-strapped city governments since the financial crash in 2008 (Greenfield, 2017; Hollands, 2008; Kitchin et al., 2015; Kitchin, 2015). While there is no agreed discrete definition among academics as to what the concept refers to exactly, there is a broad consensus that a smart city uses innovation in ICT as a means for achieving sustainable development, social innovation and improvement (Angelidou et al., 2017). While researchers agree that smart cities are defined by their use of innovation in technology, in practice it is not technology that makes a city smart, and many of innovative systems in use in urban management do little to improve quality of life or encourage sustainable development. Put simply by Kitchin (2014, 1-2), Smart Cities are cities that *"on the one hand, are increasingly composed of and monitored by pervasive and ubiquitous computing and, on the other, whose economy and governance are being driven by innovation, creativity and entrepreneurship enacted by smart people".* Taking a systems-thinking approach to the Smart City, Caputo et al. (2019:117) highlight that the Smart City depends on two main factors: *"continuously updated Big Data and Smart Technologies"* and

"customer willingness to cooperate on their development", thus further emphasising the relationship between user (citizen) and technology in the Smart City paradigm.

At an international policy level, environmental sustainability concerns are integral to the concept of the Smart City (Angelidou & Psaltoglou, 2017; Angelidou et al., 2017; European Commission, n.d.) with many interventions focused on air quality, cleaner energy or transport solutions. The Smart City provides a lens for looking at the city as a system (Saviano et al., 2016) on which to model scenarios and policy interventions; prototype and test new solutions; and deliver new social infrastructure. Prevailing strategic mechanisms driving contemporary development interventions include those that focus on shared outcomes for change delivered by focusing on aspects that appeal to the whole eco-system within a place such as health and well-being, energy independence or technology-led change. Smart City technological solutions are adopted by many cities across the world as a mechanism for delivering community resilience through a focus on holistic social, economic and environmental outcomes (Angelidou et al., 2017; Colding & Barthel, 2017). Smart city technologies assist in acquiring big data to enable better informed evidence-based decision-making (Ash et al., 2015; Kitchin, 2014, 2018).

Cities have increasingly looked to the Smart City as a set of technologies that can support growth based on delivering greater efficiencies and better user experience for citizens among decreasing resources. City governments in Moscow (Moscow's Mayor's Office, 2018a), London (Greater London Authority, n.d.), Dublin (Dublin City Council, 2016) and Barcelona (Ajuntament de Barcelona, n.d.) have all invested heavily in establishing Smart Cities programmes, labs and open data centres to assist in better city management and to curate the data that can inform future planning. Others such as Rio de Janeiro have initiated close partnerships with commercial partners - IBM in the case of Rio - around data management, management intelligence and to codevelop large scale city management enterprise software (Singer, 2012). Given its popularity among commercial leaders - namely large technology companies - and local governments focused on lean growth, the Smart City concept and suite of technologies can be viewed as a means for improving decision-making on management of cities' services, currently heavily focused on economic improvement.

While there has been much criticism of the smart city concept to date from futurists and technology commentators (Greenfield, 2013, 2017; Hollands, 2008; Kitchin, 2014; Shelton, et al., 2015; Townsend, 2013), the built environment professions have been somewhat silent on what the Smart City concept means for an inclusive urban planning and design (Greenfield,

2017). One reason for this may be the lack of understanding within the sector around specific technology, innovation and its application. Architecture in particular can take a reactionary rather than objective view of intrusions into the sanctuary of the profession from new technologies and professions, evident from the ARB actions to protect the title of architect from software developers and enterprise architects in the not so distant past (Stott, 2013). Ironically, the division between the practice of designing for digital environments and for traditional built environments is increasingly less obvious (Greenfield, 2017) as user experience, software architecture and traditional architecture collide through the spatial application of artificial intelligence. The traditionally agile processes of software architecture development - building cheap and easy prototypes and testing them with user communities - present a new approach to participatory design that is genuinely impactful.

Mounting criticism of the smart city suggests that it lacks robustness, and fails to deliver as a place-based framework for technology-enabled balanced and inclusive growth. Commentators such as Morozov and Bria (2018) join Greenfield (2013, 2017) and others who note how the paradigm is often used to further the neoliberal agendas of cash-strapped governments and their service providers. This criticism is increasingly levelled at social innovation practice in urban governance more generally - with the involvement of non-state actors in promoting small-government - under the guise of developing power to the grassroots (Massey & Johnston-Miller, 2016). In the paper 'Critical interventions into the corporate smart city' Hollands (2015) expands on his earlier paper (Hollands, 2008), which first raised these concerns, and highlights the dangers of seeing technology as a panacea to all ill-gotten urban problems. Hollands (2015) refers to the work of Harvey and Harvey (1989) and asks why the Smart City that is being promoted *"can only be effectively delivered through a corporate vision of smartness, in conjunction with an entrepreneurial form of urban governance"*, shining light on the absence in urban sociology of *"an alternative to the neoliberal city, smart or otherwise"* (Hollands, 2015:62). Echoing Hoornweg et al. (2011), Hollands (2015) reminds how *"really smart urbanism needs to start with the city itself and its attendant social problems, rather than looking immediately to smart technology"* and that this proposition will require both new tools and new rules, *"new participatory urban technologies, greater social and economic inclusion"*. Hollands (2015:63) refers to Harvey (2012) and highlights the need for a *"substantial shift in power from corporate business and entrepreneurial city leaders to ordinary people and communities"*.

The concept continues to be a significant means for informing better urban management and development, with research indicating about 355 smart city projects in 221 cities worldwide (Navigant Research, 2018) and figures from the European Commission suggesting 240 smart cities with populations over 1,00,000 (Euractiv, 2017). While ambitions remain high, concerns are mounting. Kitchin (2014) identifies five main concerns, particularly over the politics of data collection and data use; technocratic city governance and development; procurement and investment in technology and infrastructure; technological performance and security, and how the city is viewed as a system. Looking at the data concerns, Kitchin rightly states that *"data within smart city initiatives are portrayed as being benign and lacking in political ideology"* and questions whether the data or *"algorithms used to process these data are neutral"* (Kitchin 2014, 79:8) and if *"data are infected by social privilege and social values"* (Kitchin 2014, 79:9). On the notion of technocratic city governance, we are reminded that technology on its own is not going to solve *"the deep-rooted structural problems in cities as they do not address their root causes"* (Kitchin 2014, 79:9), but need to be *"complemented with a range of other instruments… that are sensitive to the diverse ways in which cities are structured and function"* (Kitchin, 2014, 79:10). In terms of procurement, Kitchin refers to Schaffers et al. (2011:437) who note that *"smart city solutions are currently more vendor push than city government pull"*, which begs the questions whether solutions that are being developed arise in response to a genuine social need, and whether systems will become quickly redundant as Hill (2013:n.p.) noted that *"city fabric changes slowly yet technology changes rapidly"*. Kitchin (2014) refers to Townsend (2013) well-presented concerns around the quality and performance of smart technology, alerting that *"if we don't think critically now about the technology we put in place for the next century of cities, we can only look forward to all the unpleasant surprises they hold in store for us"* (Townsend, 2013: n.p.). Kitchin (2014) states that *"without regulated oversight… there is likely to be significant resistance and push back against real-time analytics by citizens"*. He sees engagement and participation with stakeholders as a way to counteract the emergence of a 'panoptic city' and highlights that *"without critical interrogations the smart cities of the future will likely reflect narrow corporate and state visions, rather than the desires of wider society"* (Kitchin, 2014:12).

Angelidou and Psaltoglou's (2017) comprehensive study presents the basic critical arguments regarding smart cities, by way of analysing nine individual smart city case studies, and comes to similar conclusions as Kitchin. The study identified shortcomings originating from

contextual factors such as the broader political discourse of a place and others originating from the strategy itself (Angelidou et al., 2017). Angelidou et al. (2017) found that corporate smart city visions are *"increasingly driven by business imperatives",* often misaligned with citizens' priorities - facing opposition from the local population in the case of Barcelona and Songdo (Angelidou et al., 2017; March & Ribera-Fumaz, 2016). Angelidou et al. (2017) notes findings in Luque-Ayala and Marvin (2015) that corporate initiatives *"fail to develop the capacity of a city's people to actually learn and deeply engage in the smart city discourse"* (Angelidou et al., 2017) and that *"citizen uptake and stakeholder resonance is critical… as citizens need not only be informed, but actively engaged in the co-design of the smart city solution"* (Angelidou et al., 2017: 80). Angelidou et al.'s (2017) study points to other barriers to implementation arising from failure to attract adequate state support or poor strategic planning.

A deep and iterative literature review, in particular comprehensive studies by Kitchin (2014) and Angelidou and Psaltoglou (2017) identified the important themes of ownership, governance and participation - which became the basis for probing conversations with citizens in Moscow. Viewing the criticisms by Kitchin (2014) and Angelidou et al. (2017) alongside those of other academics across the literature review, the main questions that persist regarding the Smart City concern relationships between stakeholders - public, private and community actors in the pursuit of what Kitchin (2014) refers to as 'smart urbanism' that includes:

• Governance - What roles, responsibilities, process and protocols are in place to facilitate collaboration and partnership?

• Ownership - Who owns the (Big) data, proprietary software, innovation and strategy within the ecosystem?

• Participation - What is the quality of public engagement and how does it improve democratic decision making (around sustainable urban development)?

This phase of doctoral research aside, these themes are present again and again in the wider investigation and are relevant to the other cases studied. More detailed research is required to understand the nuances of a participatory dialogue with stakeholders around (smart) city development, which takes an in-depth look at the collaborative behaviours taking place within a sustainable and iterative urban design process. This should include analysis to understand what agile and iterative codesign processes - working closely with user communities - can be ported from the development of technical architecture to the practice of built architecture and

urban design. This will mean looking outside of traditional domains to areas of technology and lean process management that view innovation *"as an open paradigm predominantly focused on a user-centric approach that involves citizens and civil society (i.e. the customers) in smart project in terms of a technologically driven climate and external sources of knowledge"* (Dezi et al., 2018:1248). By placing faith in new technology as panacea for sustainable urban development, the 'smart city' is at risk of not recognising the repetition of past mistakes, but embedding the lack of flexibility in the planning system into the planning algorithms of the future, producing a glitchy and inflexible city that performs on behalf of a narrow set of stakeholders (Townsend, 2013). This risk is compounded by the limits of the current planning system which often focuses narrowly on individual planning applications as opposed to marrying common goals and achievable outcomes across a place (Horgan, 2020).

What is required to offset these challenges is an open and participatory approach to planning, stewarded by a collaborative framework, that allows multiple stakeholders to be included and for complementary change narratives to emerge (Horgan & Dimitrijević, 2018), often facilitated through information and communications technology (Caputo et al., 2019). Participatory design as a concept in architecture and planning is not new in itself, yet genuine multi-agency collaboration within a place or locality, which can be difficult and complicated - is often forsaken in favour of box-ticking exercises at the end of a design phase of a development project (Oliver & Pearl, 2018). In Scotland however, Planning Action for Scotland (PAS) and the Royal Town Planning Institute (RTPI) have been among those pushing for change, which has come in the form of the Planning Bill (2018) (Scottish Government, 2018a) that mandates engagement with stakeholders through community councils and workshops. When used to facilitate open dialogue, tools such as the Place Standard can help communities better contribute to the development of strategic mechanisms like that of the 'Smart City', and in turn can provide the basis of a framework for multi-stakeholder place-based collaboration. The above questions have been used in the case study presented below, which looks at the 'Active Citizen' platform developed by Moscow's Smart City team.

4.2.3.1 Case study: Aktivniy Grazhdanin *framework in Moscow, Russian Federation*

The use of Smart City technologies in Moscow provides a case study on an information-led mechanism for informing decisions on sustainable development and enabling citizens' participation in decision-making in city management and potentially in urban planning and

design. Investigation for this case study was carried out primarily through action research which has been refined over recent decades as an important research method to understand interconnections between policy and practice, and to gather insights from real-life experiences of stakeholders and communities (Reason & Bradbury, 2001). In this case, research consisted of an embedded ethnographic investigation over a one-month period that entailed meeting and living with residents in the city of Moscow over the summer of 2018. The research was conducted through semi-structured, face-to-face interviews with citizens and more formal interviews with identified stakeholders from the Smart City team. Initial contact was made with citizens subscribed to the «Москвичи против сноса» or 'Muscovites against demolition' group of activists on Facebook to arrange interviews. Interview questions were taken from an initial set drafted prior to travel to Moscow and iterated during the action research phase to focus on emerging themes and aspects of governance, ownership, and participation.

In total, seven face-to-face interviews were conducted with citizens in Moscow, engaging with a further five in detailed online conversations and a further seven through interaction via social media. A number of limitations impacted the research, including the desire for most of citizens canvassed to remain anonymous - meaning that specific details around neighbourhoods and displacement are not revealed. Respondents came from a wide section of society including young professionals, public sector workers, well-informed technologists and retired older people. The interview questions explored how well a community was able to participate in decision-making and whether they had adequate tools "to effect change" in the context of planning and the built environment. A longer interview was conducted with a leader of Moscow's Smart City team, with a view to organise subsequent discussions with city government officials. Meetings with colleagues in local government never materialised. While the climate of the World Cup, which was taking place at the time of field research in Moscow, facilitated a more open dialogue with citizens then usually, the underlying political climate in Russia meant that a deeper and more verifiable methods of both qualitative and quantitative data collection proved to be difficult. The study focuses primarily on *Aktivniy Grazhdanin* (AG, Active Citizen) a tool developed by the Moscow Smart City team in order to engage citizens around urban development proposals and change in Moscow, as part of strategies for technology led growth.

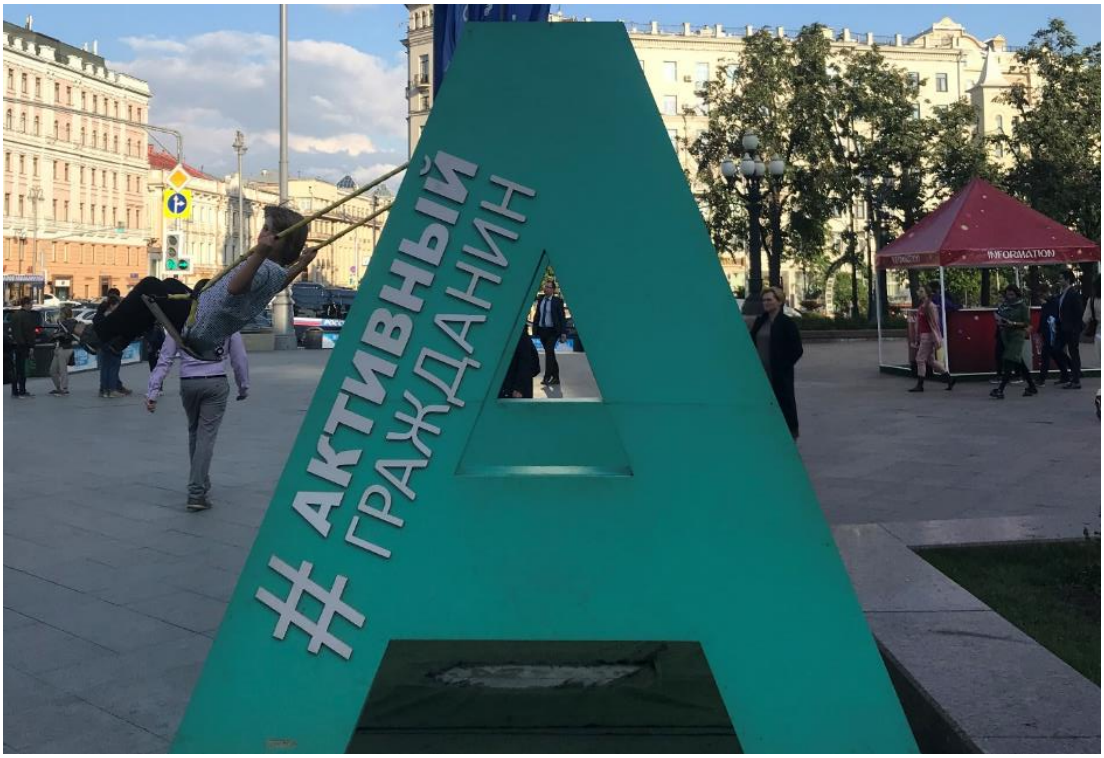


Fig. 7. Public advertisement for *Aktivniy Grazhdanin* at Tverskaya Street, Moscow, Russian Federation, (Horgan, 2018).

Fig. 8. Communal garden at *krushchevka* apartment building awaiting demolition, Moscow, Russian Federation, (Horgan, 2018).

The platform, which is now set to be rolled out across the whole Russian Federation (Bobilev, 2018), facilitates citizen oversight and participation in planning decisions. It primarily focuses on decision making on issues relating to the upgrade of the public realm and public spaces, as well as getting feedback on local government proposals, city strategies and development policies. Developed to offset a top-down approach to city planning, it purports that over 2,000,000 Active citizens have participated, representing up to 20% of Moscow citizens (Holder, 2017). The city of Moscow is currently undergoing a large-scale programme of *renovatsiya* – or renovation – where poorly performing buildings are due to be demolished in favour of improved housing projects to be built on the periphery of the city (Alonso, 2018). The theme of renovation is of great concern to a great many of citizens in Moscow, where private ownership of apartments is high owing to the change in economic system during the 1990s (Krasheninnokov, 2003). AG has been used (alongside other engagement tools) to gauge citizens' opinions on development, although it has no basis in law. While respondents were interviewed about the platform generally, the focus of the investigation was on decision-making on renovation in particular, which is set to affect more than two million citizens in Moscow over the next fifteen years (Holder, 2017).

4.2.3.1.1 Governance

An interview with Moscow's Smart City team (a function of the Moscow Mayor's office) revealed that local governance admittedly functions in a very top-down way. This team, however, emerged from a need to centralise information and communications technology systems so as to reduce duplication, incoherent procurement and public spending, deliver greater efficiency and reduce bureaucracy. This has allowed the city to take a holistic view for planning for both public services and infrastructure. Ideas for smart technologies or solutions often come from the market, while specific government departments act as gatekeepers for propositions that are then submitted to the team. Good ideas then undergo a proof of concept phase, before being presented to the mayor and subsequently included on the AG platform, or not. During development of a large urban park (Zaryade), on a vacant site adjacent the Kremlin, citizens were polled on design concepts and spatial functions. In interviews, however, respondents complained that it felt like AG was being used to facilitate already decided procurement decisions, for instance around the removal and planting of trees in the city, or almost continuous pavement installation. Many felt that, while not overtly facilitating

corruption, AG represented a smokescreen of perceived openness around decision-making that was in fact only simulated. Notably, the development company behind the AG system is said to have been behind the platform designed to encourage support for Mayor Sobyanin's recent re-election in September 2018 (Meduza, 2018).

With regard to renovation in particular, the ambiguity in Russian law around public ownership of property, owing to the change in economic system presents unique difficulties. Effectively, private ownership of property in the case of mass housing extends only to the space of an apartment, meaning that the building fabric, envelope and environs remain effectively in state ownership (Semiletova, 2011). This allows for a situation where government, banks and development agencies keep a tight control over urban development and planning decisions. While a process does exist where citizens can achieve ownership of the (public) space which their building occupies, this involves a costly arrangement where all apartment owners must agree to purchase the land together, employ a consultant who prepares a plan that must be accepted by the city authorities and included in the general plan for the city of Moscow (United Nations Economic Commission for Europe, 2004). This option is open to a truly limited number of citizens or communities (primarily due to the costs involved). In terms of the ability of citizens to influence wider urban development decisions affecting their local neighbourhood and the city of Moscow more generally, respondents felt that questions were designed in such a way as to encourage participants to select answers that would positively resonate with existing plans of the local government. A decision to establish an open-air museum at a site on Khokhlovskaya Square (Moscow Mayor's Office, 2018b) was cited as an example of this.

4.2.3.1.2 Ownership

While the majority of voting on AG takes place on the web platform, or mobile web application, there is also the possibility for informed citizens to vote in person at a *Moy Dokumenti* (My Documents) one-stop shop for delivering local public services. This allows for participation from the whole citizenry, provided that they are informed through channels such as Metro advertising and public information exercises. High levels of usage of the AG platform are associated with functionality around the 'My Street' urban repair and development scheme (Murawski, 2018), part of which allows citizens to submit complaints relating to urban environmental issues such as potholes and dumping (similar to *MySociety*'s *Fix My Street*, developed for London and other cities). For that platform, a consistent feedback loop, where

issues are responded to by the local government within a fixed time period of five days, results in a high rate of satisfaction. Two hundred streets have been improved or redeveloped through this function in addition to repairs and resolution of other issues. Detailed citizens' profiles allow for geo-targeted polling, particularly around themes relating to renovation, where two thirds of citizens need to agree to demolition of a particular apartment block, according to the programme. This however offers no guarantees in Russian law, which requires full consent of occupants before an apartment block is selected for demolition (Leslie & Charley, 2017).

A perceived lack of ownership is evident in cases where if no occupants of a block vote, that building is assumed to be compliant with demolition. In both online research and in interviews, respondents referred to the platform as *"Fiktivniy Grazhdanin"* (or fictitious citizen) owing to the lack of transparency around where ideas come from, the design of survey questions and the breakdown of voting results. In many cases there is no limit to the amount of times an individual can cast a vote on a particular issue. In conversation with the development team, it appears that the majority of ideas on AG come from the local government system, while there is a separate ideas platform open for citizens with ideas for the city, 'What Moscow Wants' (Moscow Mayor's Office, 2018a). These two platforms do not interact with each other. Interviewees referred to a case where voting on one issue (the renaming of a metro station) recorded ten votes every ten minutes consistently through the night which may suggest an automated programme was used to cast votes. In the context of voting around renovation or demolition (and displacement), however, further information is required to identify voters. Yet the perception that there is no real ownership over decision making on renovation in Moscow was common, with many seeing AG as a way to provide a veneer of compliance.

4.2.3.1.3 Participation

Additional systems provided by the Moscow local government to allow citizens to suggest proposals or ideas for the city are not effectively connected into AG. Respondents complained that invariably the type of ideas to be voted on the AG platform were of little consequence to the actual urban development in the city, and participation was often open to decisions that had very little impact. Examples cited included decisions around the colour of seats in the Luzhniki stadium refurbishment, or the choice of tiles in an improvement of the urban realm. Respondents were highly sceptical that alongside an option of "Yes" or "No", an option to

"leave it to the experts" was also included, which was often the highest voted outcome in the case of important public realm decisions. This left citizens to feel that real participation in decision making was not possible around these issues. Citizens can earn points for participation in decision-making via AG platform (Moscow Mayor's Office, 2017) – which can be exchanged for Metro credit and other prizes, and incentivises participation, in particular of those from lower economic backgrounds, increasing the potential for manipulation.

While the AG platform allows for geo-targeted polling of citizens around renovation or demolition, this is seen as designed to simulate a perceived participation, where truly open and transparent decision-making was lacking. The wider socio-economic context in Moscow, which remains the centre of economic activity in Russia and offers a significantly higher quality of life to citizens, is an important consideration when looking at the context of public participation and engagement. Respondents noted the importance of the construction industry, in a difficult economic context of sanctions, as a factor in the urban development processes. This is perhaps evident in cases where buildings in good condition, occupying high value land are chosen for demolition, and others in a far worse condition in undesirable parts of the city are ignored. While there are clear advantages to urban development in engaging with citizens through online systems such as AG, these should not replace traditional forms of face-to-face engagement. This can be particularly difficult in a Russia however, where policy exists to prohibit certain forms of public organisation or protest. More research needs to be done by comparing hard data with decision-making outcomes to truly assess the value – transparency and openness - of the *Aktivniy Grazhdanin* platform.

4.2.4 Summary on tools and mechanisms for place-based frameworks

Taking discussions with citizens and local government stakeholders on *Aktivniy Grazhdanin* into account, alongside the literature review into Smart City technology-led engagement more widely, it is clear that major concerns exist around ownership, governance and participation. While technology provides cheap and effective ways to engage citizens around issues that have little material impact on their day to day lives and future resilience, when decision-making is required on large issues such as renovation or displacement, there is no substitute for offline face-to-face engagement in a real-world context. In Scotland, this ambition is emphasised in the Scottish Government's commitments to public engagement through the planning acts and charrette programme. In the context of Moscow, which is considered to be a world leader in

facilitating urban development and socio-economic resilience for citizens through its Smart City programme (facilitated through *Aktivniy Grazhdanin*), the use of technology to sanction neoliberal planning and construction processes is of great concern. Deeper ethnographic studies are required to better understand the impact and outcomes for citizens under the process of renovations and demolition. In that city in particular, this should concentrate on the risks to maintain community resilience (alongside the ethics around acquiring private assets by displacement), and where truly socially innovative tools or actions could support citizens.

4.3 Ecological Frameworks as a Strategy for Social Innovation in the Built Environment

As collaborative practice, social innovation brings different types of knowledge together towards a more integrated design approach to sustainable development. Emphasised by a transdisciplinary approach in both urban design and analysis, ecological approaches take a holistic view of sustainable development. Within a community ecosystem, feedback loops and multi-agency working, encourage innovative solutions to socio-economic and environmental challenges. Hence a renewed interest among researchers in the ecology of an urban commons, with scholars from different disciplines coming together around the science of an ecology for cities. Informed by literature review, this section examines what is meant by an ecology for cities, and how self-management of common resources can set a sustainable course for building community resilience. Focusing on how place-based frameworks encourage collective ambition for inclusive growth, reference is made to five criteria of urban ecological science, and Ostrom's eight design principles of commons management. Research identifies methods and best practice by investigating the shape of collaboration in the case of medieval Gaelic Ireland. Newly examined in the context of planning, this past example is applied to contemporary scenarios, looking to understand how effective frameworks can bring about more sustainable and resilient communities. The final part applies this knowledge to the requirements of a community in Bronzeville, Chicago, where a local urban development network is working with local stakeholders and organisations to develop community energy and agriculture projects. Taking an engagement-led approach, the case study presents findings from ethnographic action-research in Bronzeville on the development of an urban commons.

4.3.1 Introduction

The scale and nature of urbanisation on our planet is increasingly unsustainable (McPhearson et al., 2016), as evidenced in a growing number of shocks that threaten our capacity for a safe and secure future. Migration and displacement are core features of the precarity in which the large majority of the world's citizens now live (Vasudevan, 2015), putting ever greater pressure on the numbers of people moving to cities and dense economically active settlements (Vasudevan, 2015). Much of these shocks are driven by inequality in how the world's resources are distributed (Childers et al., 2014; 2015) and the legacy of industrialisation, colonialism and capitalist policies of globalisation (McPhearson et al., 2016). The myriad of social, economic and environmental challenges facing global society are well documented (Horgan and Dimitrijevic, 2018), with academic disciplines cognisant of the need to collaborate on the development of holistic solutions that build a capacity for resilience. At the same time, the pace of innovation in late-capitalist society (Horgan and Dimitrijevic, 2019; Greenfield, 2017) is offering novel platforms for individuals and communities to participate in agile and networked placemaking and urban governance. These dynamic characteristics of urban settlement, as a site for experimentation on new ways of sustainable living, reveal the city's nature as a rich ecosystem of actors, agents and processes (McGrath and Pickett, 2011).

Increasingly, scholars are focused on transdisciplinary approaches, that combine interdisciplinary research (Pickett et al., 2014) in an ecology for cities (Childers et al., 2014; 2015). This emphasises the importance of looking at ecological and social factors together in a holistic planning process (McPhearson et al., 2016). This section looks at the emergence of ecological approaches to urban development that view the city as an ecosystem, proposing a framework for analysing the city as a complex adaptive system. This investigation will further consider the notion of the urban commons within this ecological model, referring to recent discourse around the management of common-pool resources, to increase their capacity for resilience. The built environment of the anthropocene (Bonneuil and Fressoz, 2016) sees spatial inequalities that are manifest in modern megacities encircled by informal slums in the Global South. Meanwhile, crumbling post-industrial ghost cities of the Global North are crippled with the debt of maintaining the infrastructure of the 'sanitary city', in which industrial zones are separated from residential and leisure zones to improve outcomes for human health and wellbeing (Childers et al., 2014). Inequity arising from globalism is understandably, global, just like the mounting risks of climate change and social disorder (Bonneuil and Fressoz, 2016).

The mounting environmental shocks facing urban systems are common to cities the world over (Childers et al., 2015). Environmental challenges such as extreme weather events, inundation and toxic air pollution, symptomatic of anthropogenic climate change (Bonneuil and Fressoz, 2016), are damaging the quality of life in urban settlements (Pickett et al., 2014). Spatial inequalities are often structural (Vasudevan, 2015), driven in part(icular) by a neoliberal economic model that commodifies housing (Harvey, 2012) where the development of social infrastructure is dependent on market forces (Vasudevan, 2015). This perfect storm is further exacerbated by a trajectory that will see more than 75% of the world's population living in cities by 2050 (Cosgrove et al., 2014), which will require a significant amount of built infrastructure, resulting in an even greater drain on natural resources (Turner, 2017; Ahern et al., 2014). Urban design, which came about as a response to the challenges of organising the post-war society (Turner, 2017), has in the past lacked an integrated or coordinated vision for creating equitable urban settlements (Horgan and Dimitrijevic, 2018; Childers et al., 2015).

In response to such great challenges, city decision-makers, academics and innovators alike recognise the need for holistic place-based solutions (Turner 2017; McPhearson et al., 2016; Childers et al., 2015) that recognise the dynamics of social factors and how they relate to our built environment (McPhearson et al., 2016; Horgan, 2020). These approaches, which emphasize an *'ecology for cities'* (McPhearson et al., 2016), take advantage of shared knowledge and collaboration between disciplines and stakeholders (Childers et al., 2015). Integrating multidisciplinary research in an ecology for cities can bring design and ecology together, offering a pathway to sustainability. In a recent study on *"advancing urban ecology towards a science of cities"*, McPherson et al. (2016:198) clarify how *"an integrated science could better inform decision makers who need increased understanding of complex relationships among social, ecological, economic and built infrastructure systems".* This approach allows us to consider economic and political processes alongside other social drivers of change in communities, taking advantage of a number of established concepts in ecological science and applying them to situations in the built environment (McPherson et al., 2016; Childers et al., 2015). Childers et al. (2015) make clear that in order to create a *"new, transformative integrated approach to urban design",* we must fully consider the *"social structure and dynamics of the city",* and that *"strategies for doing so should be informed by history, including socio-spatial analyses of patterns of settlement… and the policy and planning procedures that shaped those patterns"* (Childers et al., 2015:3780).

In practice this means working closely with diverse stakeholders at a number of scales, facilitated by deep ethnographic investigation and action research (Childers et al., 2015). Transdisciplinarity, implying *"coproduction of knowledge by scientists, planning professionals and urban dwellers"* (Ahern et al., 2014:255) is a key driver of this socially innovative approach to planning (McGrath and Pickett, 2011). Framing the city in this way, as a dynamic and innovative ecosystem, where resources are managed through process of co-production evokes an idea of the city as an urban commons (Harvey, 2011). In his book on Rebel Cities, urbanist David Harvey presents the city as *"a collective product of its citizens"* (Harvey, 2012:74). *"Through their daily struggles, individuals and social groups create the social world of the city, and thereby create something common as a framework within which we can dwell"* (Harvey, 2012:74). This understanding of the city as an urban commons, that *"can be produced, protected and used for social benefit"* (Harvey, 2012:87), thus becomes a framework for developing alternatives to capitalist form of urbanisation by *"rethinking the politics of… transition"* (Harvey, 2012:87). This study looks at how this vision can be articulated within a holistic planning process informed by an 'ecology for cities', open to applying lessons from past commonage to contemporary scenarios.

4.3.2 Ecological Frameworks for planning in the built environment

In examining social innovation in the built environment, the development of a commons can be an aspirational endpoint in the process of sustainability that produces community resilience. Pickett et al. (2014:150) refer to Ostrom's concept of human ecosystems that focuses on transformation and recognises the *"interconnectivity of organisms, including people as individuals and the members of institutions… and their physical environments"*. Remembering that the goal of sustainability is iterative and not fixed stage, Ostrom's framework allows for a social understanding of how a complex system responds to change by identifying *"four quadrants of behaviour that differ in the degree of system connectivity and the amount of capital available to or in the system"* (Pickett et al., 2014:154). With Ostrom's theories in mind we can begin to identify learning and best practice from both historical and modern communities that allow for better management of resources and pathways to resilience (McGinnis and Ostrom, 2014). As indicated previously, transdisciplinarity and collaborative production of knowledge is a central to this approach to planning for social innovation in the built environment. The pre-colonial Gaelic society of medieval Ireland functioned according to

a system closely attuned to Ostrom's principles, which may offer some interesting insights for researchers.

4.3.2.1 The management of rural Commons in Gaelic Ireland

Environmental activists, such as George Monbiot (2017a), have become louder in their calls for a collaborative and coordinated place-based approach to resource management in the context of anthropogenic climate change. In doing so, the writer advocates for decision-making to be devolved to the smallest possible unit - where a coalition of local stakeholders works together on sustainable strategies for their communities (Monbiot, 2017a). The large body of research that has followed Elinor Ostrom's game-changing studies on the commons provides new conceptual frameworks and models on which these strategies could be based. However, as is core to Ostrom's findings, the careful self-management of common pool resources is key to their survival in order to avoid what Hardin (1968) lamented as *'the tragedy of the commons'*.

In pursuit of models of self-management and governance of communal resource, we can look to socialist societies in the recent past such as former Yugoslavia, where hybrid systems for the ownership and management of property have been successfully developed – and featured later in this thesis (Alfirević and Simonović-Alfirević, 2015). We can also look further back, to pre-feudal societies such as Gaelic Ireland where hybrid property systems were developed for the management of common resources. Gaelic Ireland was a uniquely homogenous society, where people lived in rural community clusters governed by their own local authorities (Flaherty, 2013; 2015a; Gibson, 2008, Yager, 2002). An incredibly stratified and rigid social structure developed on the island - based on customs and laws developed over centuries. Isolated from the Roman Empire, Ireland developed a decentralised model of polygovernance, based around a system of *túatha,* or settlement units (Charles-Edwards, 1993). Gibson (2008:48) describes the *tuath* not as *"a unit possessing a definite size in terms of spatial extent, but as a polity with a specific social constitution and structure"*. Without primogeniture, each *tuath* was ruled by a local king, *rí* or *taoiseach* who, along with his successor a *táinaiste*, was appointed by a democratic vote (Higgins, 2014; Charles-Edwards, 1993). While maintaining no central authority, a High King was appointed every three years among the kings of the túath in a ceremonial post (Higgins, 2014; Charles-Edwards, 1993). Policy and law were therefore developed at a local level, with large national assemblies occurring every three years in order to debate and innovate civic codes and transfer knowledge

among communities. Private property - especially in the late medieval period - was allowed to an extent, but the majority of agricultural land was farmed in joint partnerships. On top of this, large tracts of poor-quality land, forests and seaweed-heavy coastlines were managed as a commons, with their own set of rules and obligations (Flaherty, 2015b; Gibson 2008; Charles-Edwards, 1993). While admittedly hierarchical yet without central authority, the Gaelic system functioned because of a universally applied body of laws that ensured penalties for bad behaviour or neglect (Flaherty, 2015a; Higgins, 2014; Gibson 2008; Charles-Edwards, 1993). This also meant that justice would be forthcoming, no matter the status of either party because rank in society was a fluid concept based primarily on an individual's contribution to their community and civic participation (Higgins, 2014).

The "primitive communalism" in place in Ireland is known as rundale from the Irish *roinn* (to divide) and *dáil* (assembly) (Yager, 2002). According to Yager, rundale was more than a technical arrangement, it was "a way of life" (Yager, 2002:181). Cooperation and social equity are key to the system of rundale which included the "concrete social practices of gavelkind and changedale (sic)" (Slater and Flaherty, 2009b:12) of land distribution, meaning that all members had a right of access (Slater and Flaherty, 2009b:12). Land was divided according to the ecological output measured according to cow's grazing (Slater and Flaherty, 2009a), where plots were reallocated every three years (Di Falco and van Rensburg, 2004). There is evidence to suggest that community members exchanged their domestic lodgings in a similar fashion (Slater and Flaherty, 2009a). Karl Marx, who drew attention to the importance of the Irish case, summarized this instance: "*What exists is only communal property and private possession"* (Marx, 1964:75).

More importantly, Gaelic society was bound by a strict - yet also decentralised - legal code in the form of the Brehon Law, which governed all matters of property and civic obedience (Higgins, 2014). Brehon Law was built up over centuries and was first written down around the 8th century, evident in a rich corpus of sources such as the *Sennchas Mór* (Flaherty, 2015a; Higgins, 2014; Graf, 2016). While it is difficult to decipher precisely how Gaelic society functioned during this period, there is a renewed and prescient interest in its structures from an ever-growing number of research disciplines. Brehon Law, which is the basis for modern tort and laws of negligence was administered by a number of mobile judges or brehons, schooled at several centres of learning around the country.

Fig. 9. *Grianán Ailigh*, enclosed settlement from the Gaelic period, Ireland, (Horgan, 2019).

Fig. 10. *Grianán Ailigh,* as viewed from hinterland, Co. Donegal, Ireland, (Horgan, 2019).

Brehon Law was still in practice in Ireland in some forms well into the colonial period in the nineteenth century (Slater and Flaherty, 2009b). Incredibly progressive for its time, Brehon Law provided for female ownership and inheritance of property as well as divorce and environmental protection (Higgins, 2014; Peden, 1977). One legal tract in particular, *Bretha Comaithchesa,* is concerned with environmental damage and trespassing in the context of jointly-managed land and forest (Adelman and Ludlow, 2014; Murphy, 2013). Detailed and technical, this text also lists penalties for the damage caused to certain flora based on their value to the community and production (Adelman and Ludlow, 2014; Murphy, 2013).

The importance that the Gaelic culture placed on ecological aspects is evident in the large corpus of texts that derive from the medieval period in Ireland (Flaherty, 2015a; Adelman and Ludlow, 2014). The Gaelic approach to communing was systems focused, mindful of relationships and feedback among social, ecological and technical actors. The mode of production was participatory and multi-scalar, adapted to local conditions and land quality, and based on an innovative legal system and polygovernance. Considering the Irish example in terms of Ostrom's theories, Di Falco and van Rensburg (2004:n.p.) found that when commonage is *"characterised by a certain level of collective activity and participation in decision making"* the resource exhaustion is reduced. Gaelic commonage would seem to meet all of Ostrom's criteria, having well defined albeit continuously redistributed boundaries; by adapting to local conditions; facilitating collective-choice arrangement; monitoring; sanctions and conflict resolution through Brehon Law and nested joint enterprises (Slater and Flaherty 2009a; 2009b). This said, however, much scholarship points to the systems inability to manage population growth within the túath (Cregan, 2017). While contemporary scholars are divided over the exact origin of rundale, its importance to our understanding of the ecology of settlement is imperative (Flaherty, 2015a; Yager, 2002), as is evident from Slater and Flaherty's (2009a; 2009b) contributions on metabolic rift in the agrarian commune. Marx's concepts of socio-ecological metabolism (and metabolic rift) of the mode of production offer many theories which warrant further analysis in the context of Irish communalism that *"formed the basis of the moral economy as exemplified by the communalism of the 'Rundale' system…. and the close webs of affiliation through which… townlands wove their identities"* (Slater and Flaherty, 2009b:34).

The application of Brehon Law with regard to the environment, and the wider ecological approach embedded in Gaelic society, is similar to many pre-industrial societies

around the world, and provides us with an interesting framework on which we could develop model for governing common-pool resources in the urban context (Flaherty, 2015a). The nature of bottom-up decision-making within a self-governing *túath*, an understanding of system dynamics and a strict adherence to environmental laws shows that the Gaelic system provided for an ecological approach to sustainability (Flaherty, 2013; 2015a; 2015b). Ultimately, Gaelic governance models and Brehon Law could not resist the mechanics of British colonial expansion in Ireland in the nineteenth century, and were eventually prohibited under a series of subsequent statues. English common law which promoted enclosure, feudalism and the concentration of wealth in landlords' hands eventually broke the Gaelic order over centuries.

This said, there are many instances of communal farming and joint enterprise still in effect in Ireland today that have their roots in the practices of the past. Equally, the enduring community networks evident in the structure of the Gaelic Athletics Association indicate the resilience of Irish society. Further research is needed to understand how these networks operate in practice and if they offer any lessons for the devolution of decision-making.

4.3.2.2 Self-management as a strategy for social innovation in communities

As previously stated, social innovation in the built environment requires the coming together of multiple actors and agencies to work on transformative solutions that can offset the negative impacts of bad planning through the development of resilient social infrastructure (Horgan and Dimitrijevic, 2018; 2019, McPhearson et al., 2016; Childers et al., 2014, 2015; Pickett et al., 2004). It is an inherently collaborative practice that echoes the emphasis on networks set out in the science of urban ecology (Childers et al., 2015).

In the same way that sustainability refers to a process in which an ecosystem develops capacities for resilience, social innovation denotes a similar process in which sustainable outcomes are identified and worked towards. Participation among user communities in this process is an imperative to its success as it provides feedback loops into an iterative process of development (Childers et al., 2014). This networked approach to planning is evident in strategies employed by the city of Christchurch, New Zealand in looking to achieve food security through the Ōtākaro Orchard project – as referred to in Chapter 3 (Horgan and Dimitrijevic, 2018).

Movements such as the *'Right to the city'* and the pioneering work of the Situationists remind us that citizens on the ground offer the experience, understanding and critical friendship that can inform a more holistic and equitable design process (McGrath and Pickett, 2011). This open and iterative approach to urban development is known as placemaking, which recognises the importance of social capital and the inherent wealth and resource of a community (Woodcraft, 2012; Horgan, 2020). The planner and social philosopher Richard Sennett has written extensively on the importance of participation in community building (Sennett, 2012), writing often about the tacit knowledge that can flow through networks of people working together around a common purpose (Sennett, 2012). Much of his work crosses pathways and intersections where themes of work, space and community meet, making connections between building spatial and societal resilience (Sennett, 2008; 2012; 2018). Sennett notes the importance of learning by doing, through agile experimentation, *"dynamic repair"* (Sennett, 2008:238) and transdisciplinarity, indicating that the *"capacity to open up a problem draws on intuitive leaps, specifically on its powers to draw unlike domains close to one another and to preserve tacit knowledge in the leap between them"* (Sennett, 2008:279). He states that *"simply shifting between domains of activity stimulates fresh thinking about problems"* and that to *"open up"* a problem is intimately linked with being *"open to"* creative solutions (Sennett, 2008:279).

Sennett holds up the model of the American Settlement House as a socially innovative building typology whose programme allowed citizens to learn and practice urban tactics of the time. Originating in nineteenth century East London (Krasny, 2013; Sennett, 2012) the settlement house model was adopted an expanded in the United States powered by a distinctly feminist movement led by Jane Addams and others (Krasny, 2013). Addams, who is remembered as the mother of modern social work, developed the concept in response to the desperate conditions of migrants to the great American cities growing up in the early twentieth century. The settlement house was a place-based organisation embedded in the community were newly arrived migrants could be integrated into public urban life (Krasny, 2013) Migrants from rural southern states and eastern Europe would learn skills that allowed them to find work and develop social skills to survive in the densely populated cities (Krasny, 2013; Yan, 2004; Koerin, 2003). Addams' Hull House in Chicago became a model settlement house, and a dynamic workshop for action research - dissecting the city and identifying social ills (Batlan, 2005). Chicago in 1875 was the fastest growing city in the world, meaning that 77.4% of people

living in Chicago were either first or second-generation immigrants by 1900 (Krasny, 2013). In 1889, feminist and peace activist Jane Addams moved to the Nineteenth Ward, the most underprivileged, multi-ethnic slum in Chicago with a mission "to help people help themselves" (Krasny, 2013:14).

In Elke Krasny's book on *'Hands-On Urbanism'*, new arrivals are referred to as *"settlers in the city wilderness"* (Krasny, 2013:14) of dangerous and squalid inner districts. It was no longer space and freedom, but density, confinement and danger that had to be *"settled in".* At its peak Hull House had about 2,000 visitors per week (Krasny, 2013). Neighbourliness was created through joint activities, educational institutions, interactions with one another and conviviality. Empathy, not distance, characterised the strategy of the settlement - a way of life dedicated to the social reform of the community and neighbourliness with the people already living there - thus recreated and changed the place through the cultural and social institutions of the settlement. Yan (2004) describes how the community-based service model of the settlement house, in which resources are pooled among neighbours and connect people's helping networks, effectively generate social capital (Putnam, 2000).

Central to the project was the idea that settlement workers would become part of the community (Addams, 1990). It provided a physical meeting space for a wide range of organisations including labour unions (Kennedy and Farra, 1935). Settlement houses were born in a spirit of improvisation and flexibility - understanding that poverty was the result of structural economic and social issues - not individual fault (Batlan, 2005). Success of the concept was its flexibility in responding to what settlement workers perceived as a community's changing needs and to the lack of an effective state to provide social services (Addams, 1990). Experiential knowledge came from being part of the neighbourhood and being in continual dialogue with those who lived in it (Sennett, 2012). This was enabled by a methodology of participation – not just investigation grounded in understanding - that combined subjective and objective knowledge founded in empathy, participation and ethnographic investigation (Haskell, 2000). By mapping of poverty and social deprivation in Chicago, Jane Addams and her contemporaries defined the practice of a social work, based on evidence, engagement and insights (Sennett, 2012; Batlan, 2005). Everyday lives and on-the-ground facts directly impacted legislation and law, as manifest in the streets and urban environment (Pound, 1913).

There is an ecological approach evident in the social work of Jane Addams and the settlements houses, considered against McPhearson et al.'s (2016) five criteria. The participatory nature of this work, conducted on-the-ground among stakeholders using innovative new tools and methodologies to understand deprivation and relationships. While the settlement houses were systems focused, looking to build capacity for resilience, feedback loops were constrained by race and class politics (Hounmenou, 2012). In settlement houses, where resources are pooled, social capital is generated through networked collaboration (Putnam, 2000). If we consider the settlement house as a social infrastructure component of an urban commons, we can examine the typology – and its decline - alongside Ostrom's design principles. Settlement houses allowed for well-defined boundaries, adapted rules to local conditions, conducted monitoring and applied sanctions on abusers of the system. However, collective-choice arrangements differed in each setting, with some communities racially excluded from decision-making (Hounmenou, 2012). Reasons for the decline of the settlement house movement point to issues with governance and the lack of input from residents (Yan, 2004). In fact, research into the impact of settlement houses on Black communities in particular found that those that were the most successful were those where a greater degree of participation and self-management was encouraged (Hounmenou, 2012). At their peak, there was almost 500 settlement houses across the United States (Danilov, 2013), yet they began to decline as the profession of social work itself grew out into more robust statutory services and social infrastructure (Yan, 2004; Koerin, 2003).

Reimagining the settlement house for today, powered by improvements to information and communications technologies alongside socially innovative participatory practice offers a site for collective learning (Yan, 2004). The city becomes the laboratory in which we can analyse social constructs and model alternative narratives for future ecological living. Looking at the city through scientific lens, and that of ecology in particular, offers a dynamic set of concepts and metaphors that could facilitate a more holistic understanding of our current urban challenges (McGrath and Pickett, 2011). The application of the science of ecology on the development of urban settlements offers a rich set of methodologies that could guide urban experiments, in real time, putting the city in the petri dish. The characteristics of the settlement house in Chicago as a site of agile action research, working with the community at a variety of scales, collaborative interdisciplinarity and evidence-based policy formation, indicate an important precedent of the application of some of the criteria of urban ecological science as

defined by McPhearson et al. (2016). Following a similar framework and typology, cities all over the world are actively building living labs, like contemporary settlement houses, where citizens can test urban tactics and prototype smart ideas for society (Cosgrave et al., 2014). Technological innovation and the collection of big data can facilitate an agile development process, where built environment professionals can collaborate with social scientists and citizens on future proofing of our cities (Cosgrave et al., 2014).

As technology such as the blockchain offer new tools to support verification, polycentric governance and decision-making, they can be employed differently to support the management of an urban commons and common-pool resources in the future. As we come closer to the zero marginal cost society, put forward by Jeremy Rifkin (2015), we need to ask what resources could form the basis of an urban commons to develop a community's capacity for resilience. The last part of this section looks to a community in Chicago, USA, who are looking to achieve energy independence through the development of an electricity commons. It identifies elements in the frameworks examined the literature review and looks at their potential application to meet the ambitions of Bronzeville Urban Development.

4.3.2.3 Towards an urban Commons – The case of Bronzeville Urban Development, Chicago, USA

Bronzeville became the name of the areas of south Chicago, designated the Black Metropolis - taking in the communities of Douglas, Oakwood Boulevard - from the (South) Loop to Hyde Park and Kenwood. Beginning with the Great Migration, it became home to successive waves of African American migrants from southern American states in the first half of the twentieth century (Illinois Institute of Technology, n.d.). Some of the greatest migrations of Black Americans to Chicago coincided with trade unions' unrest, seeding racial tensions that have endured for decades. Successive planning policies have compounded segregation and inequality, manifest spatially in policies of 'redlining' where racial zoning practices encouraged the development of ghettos (Massey and Denton, 1993). The area around Bronzeville was home to the infamous projects of Robert Taylor Homes and similar unsuccessful projects of urban renewal. While the traditions of the settlement house were strong in Chicago, Black settlement houses with limited autonomy had a structural condition characterised by the monitoring of policy making and programmes implemented by white Americans (Hounmenou, 2012). Thus, the decision-making power for the management of the houses was in the hands

of non-members of the Black community (Hounmenou, 2012). The more autonomous a Black settlement house was, the more organised and engaged it became in the social and civic life of the community (Hounmenou, 2012). This meant that social innovation within African American communities was concentrated within informal support networks away from institutions like the settlement house typology (Hounmenou, 2012).

The community of Bronzeville, albeit almost exclusively Black, had at one point a diverse mixed economy with a citizenry of varying incomes (Blueprint for Bronzeville, n.d.). Anti-segregation policy introduced a voucher system that encouraged the flight of wealthier families to the suburbs, which left a concentration of the poor and deprived behind (Moser, 2017). The organisation of local government in the city means that not only is social capital lost when the community is dispossessed in this way, but real funding is lost to local schools and social infrastructure as the community becomes poorer (Moser, 2017). The recent financial crisis, brought on by a subprime lending in the US, affected Black communities most severely, leading to significant repossession and vacancy in Bronzeville, and laying bare the structural spatial inequalities in south Chicago (Moser, 2017). The subsequent economic upturn in the city has seen a massive rise in speculative investment in Bronzeville, meaning rampant gentrification is now another threat facing the community (Blueprint for Bronzeville, n.d.). Bordered at one end by the University of Chicago and with the Illinois Institute of Technology already spreading across its northern boundaries, Bronzeville is at risk of involuntary regeneration. Developing a capacity for community resilience is an imperative to the survival of a sustainable community in Bronzeville. In order to bounce back from the challenges faced, Bronzeville needs to develop a resilient and equitable urban ecology, rich in social capital that affords access to opportunities for local citizens.

With this goal in mind Dr. Danielle Kizaire established Bronzeville Urban Development (BUD) in order to grow such capacity from the bottom up, recognising a need for the community to develop their own local solutions and collective strategies for inclusive growth (BUD, n.d.). In collaboration with neighbours and a set of subject matter experts, BUD have initiated a number of projects with a local community groups and social enterprises, including urban farming and gardening (BUD, n.d.). The established network of stakeholders collaborating with Bronzeville Urban Development includes commercial organisations and academic institutions, building novel social infrastructure and capacity for community resilience (BUD, n.d.).

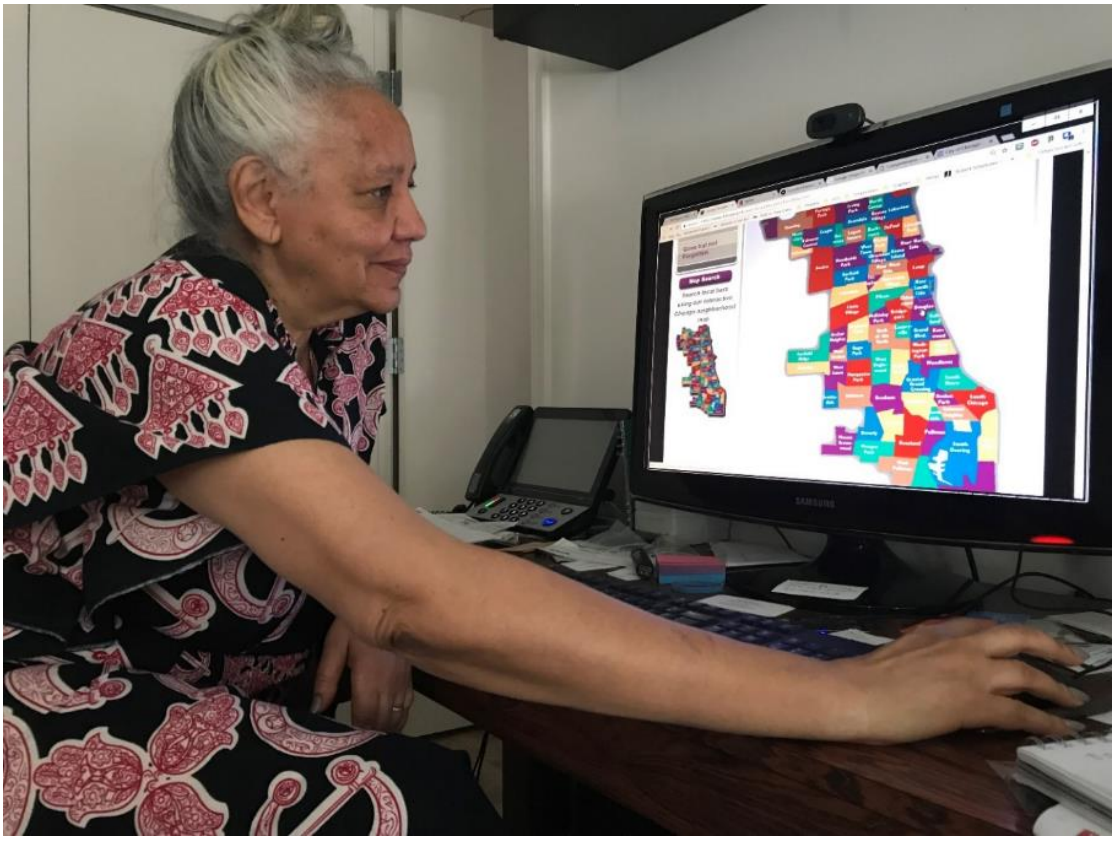


Fig. 11. Dr. Danielle Kizaire, founder of *Bronzeville Urban Development*, Chicago, USA, (Horgan, 2018).

Fig. 12. Proposed site for solar farm on redundant railway 'stocks' in Bronzeville, Chicago, USA, (Horgan, 2018).

BUD's most significant projects have been undertaken by working with partners, including the Illinois Institute of Technology, on a microgrid to facilitate an electricity commons (Newman, 2018). This case study comes out of action research conducted alongside BUD in April 2018. Over a series of interviews, shadowing exercises, meetings with stakeholders and site visits, an insight is provided into how the organisation is implementing a framework for social innovation in their built environment. BUD is a not-for-profit organization whose mission is to educate and revitalize under-resourced urban populations by leveraging community assets, including human capital, real property and natural resources to stimulate the economy in the community and to produce systems of change. The community faces a myriad of social, economic and now environmental challenges in its pursuit of a sustainable quality of life. These often arise from situations of inequity and established patterns across disadvantaged African American communities nationwide.

In a series of interviews, Dr. Kizaire laid out the problems in sustaining local industry, enterprise and business in the community, owing to the legacy of integration, Housing Voucher programmes and anti-segregation policies. *"How do you balance a community when there is no balance in society?"* asked Kizaire - *"There is no middle class that you can get together, people with similar values - only incarcerated or unincarcerated".* While structural social and economic concerns used to be the most pressing problems, the environmental and socio-economic impact of vacant land hurts the poor more than anyone else, influencing community perceptions. Kizaire explained that actions like cleaning up lots can clean up community, not just physically but psychologically. BUD members are concerned with gentrification as planning policy in Chicago.

During the global financial crisis, many in Bronzeville could not afford to live in difficult economic circumstances, meaning that homes were boarded up, and became derelict 'crack' houses and centres of anti-social behaviour. Due to community concern, the city then took properties down, creating 40% of vacant land in Bronzeville. As the economy improves, developers move onto cheap lots and gentrifiers move in and squeeze out established local community. While the community have tried to raise land value - through developing community gardens with social partners - a lack of local government resources means that the city does not participate in garden maintenance.

In an ambition to become more self-reliant, self-sufficient and ultimately resilient, BUD have initiated the Bronzeville Microgrid Project, looking to develop an energy commons for

Chicago. The site of the renewable energy cooperative is a proposed solar farm set across a 7ha site on a 2.5 mile stretch of rail embankment running adjacent to Lake Michigan and the Stockyards. Part of the line was used after as a commuter line - closed in the 1970's due to lack of demand. The project is an outcome of collaboration between the community, academia, commercial and Local Government partners, and has the potential to produce up to $800,000 a year in solar power (BUD, n.d.). BUD have already signed up a prospective client - the National Resources Council, Chicago – who issued a letter of support. Feasibility research was conducted by Illinois Institute of Technology (IIT) as part of a programme of interprofessional projects (Ipro), working with Sargent and Lundy Engineering consultants. The proposal was also supported by a grant program, *Solar for All* (albeit discontinued under the current US administration). Work is ongoing with Commonwealth Edison on developing a prototype and connection to the grid, led by architect Nancy-Hamill Governale and partners at IIT (Bronzeville Community Microgrid, n.d.). There is an ecological approach again evident in the work of BUD, focusing on relationship and feedback within an ecosystems; truly interdisciplinary practice with a diverse networks of contributors and subject matter experts; participatory engagement with local stakeholders and work at multiple scales informed by innovative analysis and data.

The Bronzeville Microgrid Project emphasises the potential for understanding the city as a commons ecosystem, where an open and iterative policy development approach can empower self-management of community resources. The project demonstrates the power of networked collaboration on place-based strategies, with stakeholders including the Environmental Protection Agency and the Environmental Law Policy Centre, neighbourhood Association and community representatives. Engineering consultancy Sargent and Lundy are working with BUD to understand how to scale their concept, and to better understand how to manage community-energy projects in practice. Local government in Cook Country is looking at a second rail embankment to offer to BUD, and other opportunities within the Chicago City plan. Dr. Kizaire and her colleagues, who have donated a considerable amount in free labour to date to the project, appreciate the need to develop tools for others to participate, develop local skills, and understand the capacities of people on low incomes with chaotic lives. Community engagement around the energy project - where low price of energy is the main incentive - inspires participation as the community will own the asset. Working with local adjacent communities strategically and in cooperation helps resource distribution across ‘competing’ companies, increasing opportunities to share knowledge, scale ideas and the

socially innovative concept. However, BUD admitted the difficulties attracting investment in cooperative from commercial partners. Dr. Kizaire recognised the need to give people (in the community) new language and tools to work with partner agencies on social innovation, to understand how to value community resources, and to help to map stages in developing the process and project phases, roles and responsibilities. As Dr. Kizaire died tragically in late 2019, it remains to be seen who will take up her vocation in the community setting. There is also the problem in sustaining neighbourhood organisation and capacities in legacy terms – and who will 'carry the baton' for the project. Looking to the example of social cooperation in the Gaelic system – mindful of Ostrom's principles -we can propose strategies for the governance and management of an urban commons that recognise the social value created within an ecosystem and the need for feedback loops, strict codes and responsibilities. Within an appropriate, ecological, framework these tools – and skills for community organisation - can be passed down within the community for generations.

4.3.4 Summary on ecological frameworks for planning in the built environment

Harvey (2012) echoes Don Mitchell (2003) in calling for a radical shift in how we plan our settlements to offset the social destruction instigated by capitalist models of development, have pointed to the importance of understanding this development from an ecological perspective. As the work of Flaherty (2013; 2015a) has demonstrated, Ireland *"remains a critical case for understanding the long-term historical dynamics of capitalism, the uneven incorporation of non-capitalist societies within its boundaries, and the ecology of local production within these global structure and processes*" (Flaherty, 2013:75). Flaherty's (2015a) survey of rundale indicates models for common resource management alongside private property, bringing Monbiot's (2017a) vision of participation to life. *"Decision-making is returned to the smallest political entities that can discharge it. Wherever power resides, it is accountable to the people, through selection and participation. Power becomes a function of community"(*Monbiot, 2017a:185). Peden's (1977) findings show that *"the Irish law as developed by the professional jurists - the brehons - outside the institutions of the State, was able to evolve an extremely sophisticated and flexible legal response to changing social and cultural conditions while preserving principles of equity and the prioritisation of property rights"* (Peden, 1977:82), and offers an important precedent for resilient community building. The Irish case allows to better understand Ostrom's principles for self-management of common pool

resources (Ostrom, 2007) and offers a framework on which we can begin to conceive of modern applications for contemporary polycentric governance (McGinnis and Ostrom, 2014; Ostrom, 2007).

The holistic concept of an *'ecology for cities'* is well placed as a platform to conduct research of this nature, and offers a host of tools and methodologies that promote the co-production of urban knowledge (McPhearson et al., 2016). While this has been defined at a high level in this chapter, more granular investigation is required to improve an interdisciplinary framework, that *"can provide an essential scientific dictionary for core concepts and their sub-concepts so that multidisciplinary teams of researchers can work together more effectively"* (McGinnis and Ostrom, 2014:n.p.). *"To advance that science"*, write McPhearson et al. (2016:210), *requires "motivated interdisciplinary urban systems but also new networks, knowledge and data sharing, greater synthesis within the field across disciplines, and cross-city comparative research that leverages the diversity and scholarship toward a more synthetic, consilient understanding of urban system dynamics"*.

4.4 *Chapter Summary*

When viewed together, the preceding case studies show the importance of frameworks to structure transdisciplinarity and collaboration in the built environment. Table 3 below, provides key facts from case studies on social innovation frameworks. True transdisciplinarity is an important feature of the ecological approach, and will require built environment professionals to come out of their comfort zones. The development of an urban ecological science will depend on the ability of practitioners to build new evidence-based narratives that question growth for growth's sake, and test alternative models for addressing social, economic and environmental inequities. Social innovation was identified in these case studies, again in response to a social, economic or environmental need within that community. In the two contemporary cases, speculative development and spatial regeneration form the backdrop in each context. Both communities in Moscow and Chicago are sceptical of the return of investment of spatial development for their community, and tactics are examined above.

Coalitions working to address spatial equalities – whether local governments or grass-roots associations – collaborate on social innovation frameworks for transformation, often mounted on shared values and consensus. Cases demonstrate how sustainability provides a

coherent frame for planning and programming for change with communities. The first section of the chapter introduced how place-based frameworks for development are formed by reaching consensus among diverse stakeholders and groups. Tools that seek out alternative views on transformation were presented, alongside technologies that source public opinion on development. These represent systems for building new narratives to support development, based on shared outcomes for community wellbeing and advancement. While such tools are critical in sourcing information - and building a strong evidence base for planning - they can also be manipulated in practice to support political aims and ambitions, as the Moscow case demonstrates. The second section presented concepts to support an ecology for cities, and how ecological frameworks can provide for more sustainable approaches to development that make better use of available – and common resources. This section presents strategies for the management of common pool resources, and how strong legal charters may prevent against the abuse of the Commons. However, much more research is required to understand how to apply the learning to the contemporary context, what democratic tools can support decision-making in practice.

It remains to be seen if environmentally-minded strategies are yet another vehicle to mask speculative development – demolition and displacement – and neoliberal approaches to planning. The case of Chicago allows us to imagine how energy independence could provide more sustainable pathways to resilience, yet cautions against ignoring the underlying political context. The case presented from Gaelic Ireland offers insights into how older societies managed common resources, and approached self-management. What can be concluded from the above is that planning and programming for social innovation in the built environment must be compatible with sustainable approaches, and contained within a framework that enables community ownership of the design process. Engagement through platforms, assemblies and networked activities can help develop a robust overarching mandate among citizens, but this process can similarly be captured by unscrupulous actors. Activism and rights-based legal innovation are ways in which unequal community involvement in decision-making can be addressed, and community self-management is found to be a successful method for overcoming barriers to governance, ownership and participation. Similar to findings from the previous stage of research, the success of socially innovative frameworks is linked and even dependent on political buy-in, and systems of

governance. As is further compounded by the final research phase, underlying political systems – values and processes – are the ultimate drivers (or barriers) that enable impactful frameworks for social innovation. The last part of doctoral research considers the architectures that emerge from holistic, place-based frameworks - facilitated through collaborative networks and dialogue with citizens. In particular, this research looks at how social value is created within a community, through participatory planning practice and self-management – towards the development of a commons. Architectures that harness and promote capacities for resilience, include societal housing and co-living experiments.

Matrix of research findings, showing key facts from *framework* case studies:

	FRAMEWORK		
1. Category	Social	Economic	Environmental
2. Location	Moscow, Russia	Chicago, United States	Gaelic Kingdoms, Ireland*
3. Problem - Needs addressed	Regeneration, Building deterioration, Displacement	Energy poverty, Speculative development, Gentrification, Regeneration, Social isolation	Sustainable population growth, Environmental management
4. Brief description of social innovation action	Online engagement platform, Citizen decision-making	Network building, Energy Commons, Community micro grid	Commons, Citizen Assembly, Legal Innovation, Rights-based
5. Stakeholders involved	Moscow City Government, Smart City Team, Citizens	Bronzeville Urban Development, Universities (IIT), Stakeholder eco-system, Commonwealth Edison, Citizens	Tuaths, Brehons, Taoisigh, Citizens
6. Engagement methods	Top-down	Mixed	Bottom-up
7. Barriers encountered	Ownership, Governance, Participation	Politics, Ownership, Governance, Participation	Governance, Politics, Legacy
8. Methods for overcoming the barriers	Limited Activism (online)	Self-management – proposed but not in place	Self-management
9. Support from the governance system and its effect	Significant – Neutral	Minimal – Negative (Under current admin.)	Significant - Positive
10. Initial and/or long-term solutions/outcomes of social innovation actions.	None in real terms	None – No political backing, Death of community leader	Ultimately failed

Table 2. Key facts from case studies on social innovation frameworks

Chapter 5: Social innovation architectures

5.0 Chapter Overview

The preceding phase of research identified (the) commons as a framework for pursuing social innovation in the built environment. As part of the **architecture** phase of research, investigation in this chapter focuses on the spatial responses to building resilience in urban settlements. The chapter features three case studies that provide insight into the opportunities and barriers to the delivery of impactful architectures through social innovation. The post-politicisation of community in the context of spatial decision-making is brought to the fore as a significant obstacle to sustainable development.

The first example is from São Paulo, Brazil where communities of homeless activists have managed to build a network of self-managed housing cooperatives using vacant public buildings and other redundant spatial assets. Following this line of inquiry, the second example presents a case form the former Yugoslavia, where self-managed socialism offers solutions to supported *Housing for All* in the city of Belgrade, Serbia. These cases represent democratic approaches to addressing spatial inequalities in cities, through enlightened governance and participation. The final example in this chapter – and thesis – highlights conflict in the redevelopment of a brownfield site in Lille, Northern France, where the delivery of a new neighbourhood has been halted due to community opposition. When viewed together, these cases demonstrate the influence wielded by political systems on spatial development, and how local ownership over development plans can be hampered through a communication vacuum and lack of genuine engagement.

5.1 Architectures for Resilience: Housing occupation as a means for attaining spatial rights – The case of São Paulo, Brazil

This first section examines models for housing commons, informed by action research in occupations in the Brazilian city of São Paulo. The case justifies occupation as a valid means of activating housing rights, supported by existing policies enshrined in Brazilian state. These include the *'Right to the city'* and City Statute – put into law since the fall of the dictatorship in the 1980s but are at risk from the emerging political context which seeks to criminalise the act of occupation itself.

As the final part of doctoral study concentrates on the architectures for resilience, it seeks to verify the hypothesis that social innovation in the built environment occurs through interconnections of networks and frameworks, producing resilient social infrastructure or architectures. A case study details findings from field research in two housing cooperatives in the city, which occupy vacant federal assets producing alternative models for cohabitation. Following analysis, the research identifies strategies to counter the new political threat - a set of insights into occupation as a means of attaining spatial rights; and recommendations for communal living systems - towards a sustainable housing commons. Findings suggest models for cohabitation that could be further tested in subsequent research and environments.

5.1.1 Background

The 2008 global financial crisis laid bare the impact of neoliberal planning policy on housing provision. All over the world, from Delhi to Dublin, in both the developing global south and the nominally developed north, housing crises and homelessness expose stark structural inequalities within our communities (Lang et al., 2018; Madden and Marcuse, 2016; Vasuvedan, 2015). The commodification of home has put considerable pressure on governments to depend on market-based solutions for housing their citizens (Lang et al., 2018; Madden and Marcuse, 2016). A move toward a more sustainable, socially innovative approaches sees planning decisions on housing undertaken alongside wider community planning for services. These are place-based approaches that encourage pooling of resources, partnership working, integrated design and participatory collaboration (Mota and Allweil, 2019, Horgan, 2020). Worldwide, the housing challenge presents a need for open strategies for inclusive growth that are based on communal systems, generating efficiencies for managing authorities and making better use of underperforming spatial assets (Mota and Allweil, 2019). The rise and dominance of the neoliberal economic system has separated architecture professions from their duty of care in providing homes for populations in precarity (Mota and Allweil, 2019). While the struggle for housing occurs in the developed North as well as the developing South, a large proportion of development in the southern hemisphere happens outside of formal regulation. Developing themes previously raised in the wider investigation, this chapter examines models for producing a housing commons, informed by occupations in the centre of São Paulo. The literature review sets out the background of planning policy in

Brazil, shedding light on why citizens remain locked out of decision-making and share ways in which an 'insurgent citizenship' has inspired citizens to seek and manage their own solutions.

Informal urban development constitutes a large part of urbanisation in Brazil (Rocco et al., 2019). In the second half of the twentieth century the population of Brazil grew from 31m to 137m in patterns that see an astonishing 87% of Brazilian living in cities (Rocco et al., 2019; IBGE, 2011). Governance failures have created peripheral typologies and communities living in overcrowded and illegal slums (Rocco et al., 2019). In recent decades, however, Brazil has been celebrated for enlightened planning policies that emphasised citizens' rights and encouraged participation (Freitas, 2019). The sprawling megapolis of São Paulo, with a population of nearly twenty one million people (Earle, 2017), struggles to provide good quality housing, in particular for low-income families. This is in spite of a number of laws and policy instruments that provide for 'rights to the city' such as the Brazilian Constitution of 1988, the 2001 City Statute, and Municipal Housing Council, introduced in the decades following the military dictatorship (Rocco et al., 2019; Earle, 2012). Across São Paulo more than 200 vacant buildings in public ownership have been occupied to provide housing for the low-income urban population (Santiago, 2018). Following an action research methodology this chapter shares key learnings and findings from onsite ethnographic investigation in two occupations, *9 de Julho* and *Ouvidor, 63* in the centre of the city. The research refers to a set of values cultivated in each occupation, that have enabled communities to pursue occupation as a means of attaining spatial rights, and concludes with recommendations for establishing communal living systems - towards a housing commons. This account is preceded by background, which offers some context of the housing crisis looking at the centre of São Paulo, informed by a set of recent studies and investigations that take a similar action-research approach (Earle 2017, 2012; Donaghy, 2017; De Carli and Frediani, 2016).

In a recent paper featuring insights from Brazil, Freitas (2019) highlights growing criticism of the impact of capitalist development on the lives of marginalised groups. Based on experiences in Fortaleza, Freitas draws clear association between neoliberal political ideology and opaque processes, noting how inequalities are often *"mediated by planning"* (Freitas, 2019:288). Contrary to rights in legislation (detailed later in this section) urban development plans still favour the most powerful actors in society, supported by investment (Freitas, 2019). Furthermore, Freitas (2019) found that those policies that target the root causes of spatial inequalities were less implemented. The city of São Paulo has long been a site of contested

rights to housing and settlement owing to its position as the economic capital of Brazil (approximately 18% of national GDP), and indeed South America, and a destination for both internal and external migrants (Earle, 2017). The metropolitan area is home to almost 21 million inhabitants, with over 12 million living within the central municipality of São Paulo itself (IBGE, 2019). In 2008 the city had 1,567 registered shantytowns (favelas), 1060 slum tenements (cortiçoes), 523 public housing buildings and 1,698 tenement buildings (Secretariat for Housing, 2008). It was estimated that population living in favelas alone was around 20% of the city's population (UN-Habitat, 2010). At the same time, there were 290,000 empty residential properties and numerous vacant commercial and industrial properties (Fundação João Pinheiro, 2015). Research by Donaghy (2017) suggests that between 2011 and 2012 the official housing deficit grew by 18% (Fundação João Pinheiro, 2015). Earle (2012) estimated that the city had a deficit of 1,217,550 homes. Donaghy's (2017) study references the work of Marques (2013) and describes a closed policy context - where state bureaucracy and private actors work together to shape development policy with little oversight. Examples of crime, nepotism, patronage and enduring corruption are of particular concern at a time when accountability in Brazil is further undermined by the current administration (Rocco et al., 2019). The reality is in opposition to rights afforded to communities through a host of legislation following an open process of amending the 1988 Brazilian Constitution (Rocco et al., 2019) and through the establishment of the Public Defender's Office (Defensoria Publica) to support communities in law (Donaghy, 2017).

Rocco et al.'s (2019) article, characterising spatial planning in Brazil, provides a thorough understanding of how urban policies are intended to address inequality and prioritise citizens in decision-making. In the aftermath of dictatorship, the Brazilian constitution recognised the value of a property derived from collective effort and that urban property should fulfil its social function to the community (Rocco et al., 2019). The constitution was later framed as a *"socio-territorial pact which ought to transform the reality of our cities"*, according to the Brazilan Ministry for Cities (Rocco et al., 2019:431). Following the guarantees to citizens laid out in the 1988 Constitution, the 2001 *Estatuto da Cidade* (City Statute) confirmed the social purpose of urban land (Rocco et al., 2019), based around the 'right to the city', and the establishment of participatory councils for cities greater than 20,000 inhabitants (Donaghy, 2017). Rocco et al. (2019) refer to Article 22 of the City Statute in that *"the right of property is guaranteed",* and to Article 23, which states that the *"property should observe its social*

function" (Rocco et al., 2019:427). The Statute is presented as a holistic approach to development (Maricato, 2010) and internationally supported by the New Urban Agenda as presented at UN Habitat III in 2016 (Donaghy, 2017). In 2005, Brazilian president Luiz Ignacio da Silva created a National System for Housing in the Social Interest, alongside funds for social housing, and a number of participatory budgeting and planning processes (Donaghy, 2017). These instruments, alongside the participatory masterplanning, are intended to prevent speculative or technocratic influence and allow citizens into the planning process (Rocco et al., 2019). The constitutional guarantees must be made into local law to become effective as under the federal arrangement municipal councils need to agree and apply rights locally (Rocco et al., 2019). A participatory spatial plan was prepared for São Paulo and made into law in 2014 (Rocco et al., 2019).

While some rights exist, Freitas (2019) looked into insurgent planning, suggesting that a neoliberal agenda in Brazil has prevented citizens from availing rights in practice and verifying Arantes' (2012) account of Brazilian urban adjustment policies that sanctioned an end to the notion of *"collective responsibility"*. Similarly, Donaghy (2017) follows Holston's (2008) theses that citizens have *"the dignity of participating in the public sphere as bearers of rights"* (Holston, 2008:241), and should therefore be empowered to challenge the widespread commodification of housing and targeted gentrification, and to prioritise the production of homes for workers (Donaghy, 2017; Madden and Marcuse, 2016; Holston, 2008). Donaghy's (2017) research builds on both Earle (2017; 2012) and Holston (2008) in focusing on the concept of *'insurgent citizenship'* whereby *"inclusion is gained through the social transformation of power relations"* (Donaghy, 2017:991; Lefebvre, 1996). Freitas (2019) looks at how groups in the north-eastern city of Fortaleza have sought to challenge official accounts of planning process through close monitoring and collective actions (Freitas, 2019). The research highlighted three scenarios in which participatory planning process was crucial in many decisions which had negative spatial impacts for peripheral communities (Freitas, 2019). It found that often, inclusionary discussion was used to *"demobilise social movements"* and to *"depoliticise communities' struggles while exceeding state control within the society"* (Freitas, 2019). This view, which connects themes of community participation, speculation and gentrification (Freitas, 2019) is supported by findings in which control over a speculative rise in land prices was missing from a majority of Brazilian masterplans (Freitas, 2019; Denaldi, 2013; Maricato, 2010; dos Santos Junior and Montandon, 2011). Freitas' account is critical of

planning tools in the City Statue and Constitution which are seen as empty promises to marginalised communities, who see resources concentrated in speculative development, in this case supported by leftist administration (Freitas, 2019).

In São Paulo, housing rights are primarily enacted through the work of a great number of housing movements who seek to implement the Urban Reform Agenda in Brazil by acknowledging the *"social, cultural and environmental interests of other groups and the city as a whole"* as well of those of landowners (Fernandes, 2007:182). A number of movements were established following the work of Catholic organisations in the 1970s and '80s to emancipate the plight of urban poor (Earle, 2012), the largest being the Uniao de Movimentos de Moradia (UMM) with approximately 50,000 members across the state of São Paulo (Earle, 2012). The first organised building occupation began in March 1997, quickly spreading beyond the city of São Paulo (Earle, 2012). Holston's (2008) work on 'insurgent citizenship' within housing movements links housing and citizenship, and promotes the rights of citizen-workers living in peripheral conditions whether on the outskirts of the city or within the squalor of tenements. Similarly, the UMM focus on legal mechanisms for upholding the rights of citizens, employing the tactics of occupation to demonstrate the government's abject failure in providing dignified housing for the population (Earle, 2017; 2012). These social movements facilitate actions taken by ordinary citizens to provide housing for those on low incomes in the city centre through occupation and by engaging in practices that challenge gentrification and displacement (De Carli and Frediani, 2016). By upholding the constitutional rights afforded to citizens under the right to the city and subsequent legislation around the social function of property, movements under the UMM oblige municipalities to conform to their responsibilities under federal law (dos Santos Cunha, 2011).

5.1.2 Occupation Movements in São Paulo

Štiks' (2017) research on occupation and citizenship refers to Isin's (2009) idea that citizenship offers a claim on more rights, including *"to participate in the social, political and economic matters of one's community"* (Štiks, 2017:28). Occupations of public spaces openly challenge the neoliberal hegemony and through their activism *"the question of space becomes crucial"* (Štiks, 2017:33). Only occupation of *"physical, concrete public space, open for all… can facilitate emancipation from that system"* (Štiks, 2017:33). Occupation that leads to emancipation involves the transfer of ownership, *"liberating… from dominion"* (Štiks, 2017:33). Self-governed

spaces, direct democracy, horizontality and other social innovation in the built environment is growing and seeing citizens taking on the roles, functions and services of the welfare state (Štiks, 2017). In São Paulo, occupation movements have built a holistic social service infrastructure into their ecosystem over a number of years.

Brazil is often regarded as one of the most unequal countries globally, where *"the history of urban land use is in part a history of appropriation of space through both real occupation and legal ownership"* (Rolnik, 1988:38). Comprehensive research by Earle (2012; 2017) details the struggle of movements in São Paulo to achieve a decent and dignified quality of life through occupation and legal dialogue. This work builds on previous research, and notes that *"between 50 and 65% of land is illegally or irregularly occupied, or in some other way infringes on laws of planning, building or zoning"* (Earle 2017, 2012; Maricato, 2000; Caldeira, 2001). Social segregation in São Paulo arises from an absence of integrated planning policy, negatively affecting the ability of workers to be housed close to their place of employment within the city centre (Earle, 2017; Fernandes, 2007). Earle (2017) cites de Oliveira (2003) who argues that Brazil's economic expansion is dependent on exploitation of underpaid workers who live in precarious or peripheral housing situations. In 2009, the launch of the Minha Casa, Minha Vida (MCMV) (My Home, My Life) was intended to alleviate some of these problems by building a million homes with an investment of R$26bn (Tatagiba et al., 2013), supported by the establishment of the Banco Nacional de Habitacao (National Bank of Housing) (Earle, 2017). It is widely agreed that the main political driver for the MCMV programme was to prevent the worst impacts of the global financial crisis in Brazil (Hirata, 2009). The programme has drawn considerable criticism in Brazilian scholarship out of a widely-held view that MCMV was designed to benefit large building companies and keep the civil construction industry solvent. Academics point to the failure of the programme to deliver real social improvement for citizens - owing to the fact that it has driven construction of large number of housing units in areas far from the city and without adequate public services (Earle, 2017; Bonduki, 2009).

Just like in Fortaleza, spatial plans for São Paulo are similarly dominated by rich and powerful interests, provoking an insurgent citizenship in response to the failure of seemingly socially innovative planning instruments. With rising land prices, house prices in the centre of São Paulo have risen by 214% (Castro et al., 2015:86), promoting further displacement of poor residents (Earle, 2017; Sanchez and Broudehoux, 2013). Many low-income workers are employed in the centre (Budds et al., 2005), meaning that tenement housing, catering to a

number in the region of 596,000 people (CDHU, 2012:5), is commanding rents that are among the highest per square metre in the city (Kohara, 2013). Earle (2017) cites Maricato (1996) in detailing the *'socio-ecological disaster'* in São Paulo, emanating in a *"gigantic concentration of poverty that is the result of a historical process of occupying land in a way that segregates and excludes"* (Maricato,1996:16). An investigation among the housing movement in São Paulo found that housing occupations allowed residents to exercise their citizenship by *"enabling a personal and collective experience of membership in society, enhancing access of services and opportunities"* (De Carli and Frediani, 2016:348). This was brought about by *"making evidence of the differentiated distribution of rights in the city"* and demonstrating *"the possibility of new ways of creating societal belonging in São Paulo"* through collective occupations (De Carli and Frediani, 2016:348). This resonates with Benjamin's (2008) understanding of 'occupancy urbanism' through what Holston (2008, 1998) described as *"insurgent citizenship".* For De Carli and Frediani (2016:332) *"organised occupations hold the potential to steer the notion and practice of urban regeneration toward more socially just outcomes"*. The case of São Paulo Centro is particularly significant due to the apparent mismatch between formal rights on paper and the actual experience of the struggle for housing rights for citizens (De Carli and Frediani, 2016; Fernandes, 2011; Maricato, 2011). De Carli and Frediani (2016) note the success of the housing occupation movement, which has led to the rehabilitation of vacant buildings is due to a series of bottom-up initiatives, demonstrating an alternative to neoliberal models for habitation (De Carli and Frediani, 2016; Miagusko, 2008; Helou, 2012; Moreira, 2012).

The above findings greatly informed themes explored in action research and in conversations conducted as part of this case study within two housing occupations in São Paulo, detailed below, looking at how those organisations operationalise the 'social function of property' in the centre of the city. As a tool of insurgent citizenship, occupation can both reveal vacant buildings to contravene the City Statute of 2011, while at the same time demonstrate alternative models for (collective) housing in response to the actual needs of citizens (De Carli and Frediani, 2016; Earle, 2017; 2012). Within a context where the new Brazilian Federal administration has spoken of criminalising the act of occupation (Donato, 2019), our ethnographic investigation seeks to understand the importance of occupation in upholding the right to the city, while guaranteeing the social function of property for future generations in the centre of São Paulo. The study is timely as the current president was elected with a

mandate to dismantle many of these provisions, including the elimination of the Ministry of Cities itself (Rocco et al., 2019).

5.1.3 The social function of spatial occupation in São Paulo Centro

The social function of property was finally adopted as law in the City Statute (2001) (dos Santos Cunha, 2011) and expressed in the 2002 Civil Code as *"a new concept of property, based upon the constitutional principle that the function of property must be social, (that) overcomes the interpretation according to which… property is an exclusive function of the interests of individuals, owners or possessors"* (dos Santos Cunha, 2011; Rocco et al., 2019). In practice, however, different interpretations of the law over the years have frustrated attempts to clarify what is meant by the social function of property. While the majority of legal discourse agrees that the social function is an attribute of the property itself and not of its owners of property rights (dos Santos Cunha, 2011), a more common understanding of how social value is created, managed and measured within a spatial context, and that of the occupation in particular, is required. The social function of property is manifest through a right to urban land, which is serviced by public goods and common infrastructure provided by local and federal authorities. The Brazilian constitution legislates for the social function of property, meaning that building owners must facilitate public use as set out in a participatory urban development masterplan for the city. Article 39 of the City Statute (2001) in relation to the social function of property states that this function is upheld to ensure the fulfilment of citizen needs with regard to quality of life, social justice and the development of economic activity (Rocco et al., 2019). In theory, such policy design ought to safeguard against rent seeking activity and value extraction that occurs in speculative urban development (Mazzucato, 2018).

In *The value of everything*, economist Marianna Mazzucato dispels some widespread myths about government-led wealth creation and public investment (Mazzucato, 2018). She calls for *"a serious discussion about the nature and origin of value",* noting how the *"collective nature of innovation should result in more sharing of the rewards"* (Mazzucato, 2018:19). In the urban context, the collective endeavour of all citizens contributes to placemaking, and should therefore reap the benefits, economic and social (Horgan, 2020). Mazzucato (2018) laments, even in the midst of our environmental challenge, that there is no concept of public value in economics and how untruths about government that spread during the rush to neoliberalism has undermined confidence (Mazzucato, 2018). Policymakers too are influenced

by ideas about value, when trying to facilitate certain economic outcomes, resulting in many short-sighted planning decisions (Mazzucato, 2018). To bring about a real transformation of inequality, Mazzucato (2018) believes that a holistic framework that goes further than fixing isolated problems will help shape an economic system that works for everyone. Holistic, multi-stakeholder approaches to planning can work towards desirable outcomes that promote community resilience, working with sectors such as transport and social care. She believes that the concept of value must be rediscovered in spatial, economic and community planning in order *"to ensure that policy leads to the socialisation not only of risks but also of rewards"* (Mazzucato, 2018:263). When considering public value - and indeed the social function of property in the built environment - we should be cognisant that value creation is collective and that innovation is social (Mazzucato, 2018).

In São Paulo, significant value is also created in the low-income communities who service the economic heart of South America. Planning instruments and constitutional rights have not been enough to protect these communities from displacement to the city's periphery due to unsanitary or overcrowded living conditions in central slums and tenements. Rampant and sustained speculative development in the centre of São Paulo has forced those whose livelihoods require easy access to the city centre to seek extra-legal solutions, coordinated through an insurgent citizenship. As part of an ethnographic investigation, the researcher spent time with two occupations in the centre of São Paulo in order to understand models to fight a housing crises. A series of conversations with activist-residents helped to interrogate definitions of social value, the social function of property and how this is harnessed, maintained and value extracted over time.

In advance of travel to São Paulo, the researcher engaged with a set of organisations previously known to them, having lived in the city from 2013 to 2014 - namely *A Cidade Precisa de Você* (*The city needs you*) - an organisation working with communities on spatial transformation (A Cidade Precisa de Você, 2019). This put the researcher in contact with the occupations, and allowed interviews to be set up and planned. The researcher then spent two weeks visiting the occupations, spending time with residents, at events and observing activities. Over the study period, twelve interviews – in Portuguese - were then conducted with identified stakeholders in each occupation, which inform findings and analysis.

Ouvidor 63 is the largest 'cultural occupation' in Latin America, situated close to the Vale do Anhangabaú in the centre of the megalopolis of São Paulo. The occupation of a disused

Fig. 13. Communal garden at *Occupação 9 do Julho*, São Paulo Centro, Brazil, (Horgan, 2018).

Fig. 14. Information panel detailing activities at *Occupação Ouvidor 63*, São Paulo, Brazil, (Horgan, 2018).

building has been in place since 2014 and houses over 100 artists and creative producers, notes Monroy (2018). The occupation organises workshops and events for the local community to share skills and transfer knowledge, hosted by residents from all over the continent and the world. The property was previously the headquarters of the State Department of Culture until 1998 and then a housing occupation until 2005, before being offered to the Habitation and Urban Development Company in 2007.

It laid empty again until it was occupied by a group of artists and creative producers in 2014, seeking to draw attention to the lack of social function in a property with such good access to networks and services, in a city were creative spaces are sorely lacking. Demonstrating a commitment to engagement, 2018 saw the collective produce their second Art Biennale with Red Bull Station, coinciding with São Paulo's famous art festival, with a programme dedicated to sharing projects and practical experience (Monroy, 2018). In recent years, the occupation has developed a unique reputation as a site of resistance, among the many occupations across the city, given its focus on cultural production. This aspect forces the collective to develop a sustainable operating mode and ultimately generate the income required to fund accommodation and services for occupants. The commercial nature of the occupation as a site of cultural production - and what this may mean in a Marxian context - is an interesting facet to explore as well as understanding the mechanics of self-management and governance of the occupation; how this is manifest in its architecture and how the network connects into wider social infrastructure and architectures of resilience in the centre of the city of São Paulo.

Ocupação 9 de Julho is a much more formal occupation, housing about 131 working families on an upmarket street close to the area of Bela Vista in São Paulo (Kachani, 2018). The iconic occupation is housed within a public building, owned by the Brazilian Social Security Institute (INSS) which has been vacant for over thirty years, according to Kachani (2018). The formality of the occupation is a model for the large number of occupations across the city, many of which have been closed in the wake of the collapse of the Wilton Paes Leme building near Republica Square (Kachani, 2018). The electrical fit-out, while not inspected by state energy provider Eletropaulo, is of the highest quality, and there is a clothing bazaar, wood workshop, kitchen, creative spaces and community library on site. Like *Ouvidor*, the creative industries have a central role, and the occupation has hosted a number of famous Brazilian musicians and artists. The building was occupied in 2016, by the Movement for the Homeless

in the City Centre (MSTC), an organisation founded in 2000, mostly run by women, that now provides housing for 5,000 people across 11 occupations. Unlike *Ouvidor, 9 do Julho* charges a monthly rent of R$200 (€40) for upkeep and building maintenance (Kachani, 2018).

The following account is based on a two-week period of deep ethnographic study among the two occupations in the centre of São Paulo. Connections with the residents were facilitated through links with established organisations - architects and activists - who have spent longer durations working with the communities. The researcher engaged in semi-structured interviews with twelve resident-activists about the organisational management, challenges and the social function of each occupation.

Ocupação 9 de Julho is one of the most prominent occupations in the centre of São Paulo, led by Dona Carmen da Silva Ferreira, who has decades of experience of activism with the MSTC, which she now leads (Kachani, 2018). It is run through a base of predominantly female activists, many of whom have faced challenges in both their employment and domestic lives. A remarkable woman, Dona Carmen runs a tight ship, as part of network of nine closely aligned occupations. The occupation has designated roles and responsibilities, and administration and liaison workers who triage new residents and set them up with the documentation they need to access social benefits. Without an address at the occupation, the residents would be unable to access healthcare or education, some of which is delivered on site by remote teams from the local authority. Those involved in administration are resident activists themselves. Commitment to the ethos of rights to the city and universal access to housing is laid down in the constitution. Chores and tasks are conducted through collective mutirões (joint efforts) where work is carried out communally. It houses over a hundred families.

Many of the residents work close in the centre of the city in low-level service positions, micro enterprises or in ambulatory commerce. Their wish to live near their place of work is enabled only through the occupation, as an alternative to commuting long distances from peripheral locations were public services – waste management, education and health - are scarce. Children attend the local schools and residents spend money in local shops and restaurants, helping the overall security in an area of the city when many workers leave at the end of the working day. A set of rules governs the occupation, protecting against domestic violence and antisocial behaviours. School attendance is mandatory for children, some of whom are immigrants to Brazil from places such as Haiti. An onsite dressmaker makes the

uniforms of resident street cleaners, while a workshop and kitchen teach new skills. Coordinators attend general meetings every fifteen days with others in their network of occupations.

While some of the residents, having previously occupied the infamous Hotel Cambridge (Stevens, 2017) are waiting to be rehoused in social housing being constructed by the local authority on that site, many are anxious about the future and the new Brazilian government. The unanimous view of those spoken with is to open the doors wide to the public and bring the local community in through events and engagement. By demonstrating the social function and social value of the occupation to the wider city of São Paulo, residents are confident they can show the importance of this very social infrastructure. The failures of the government to provide dignified and adequate housing for low-income workers in the centre of the city is in violation of its constitutional obligations. By an open engagement with the wider city - through festivals, events and a weekly lunch - the occupation is able to show that alternative models for collective housing are possible. An integrated and connected public service is key to solving the housing crisis, which can be enacted through insurgent citizenship to uphold human rights and the right to the city under the constitution.

The occupation of *Ouvidor, 63* is, in contrast, much more anarchic. Interviews with these residents were less structured – and harder to set up – reflecting the ad-hoc nature of that occupation. The building is subdivided on some floors to differentiate public and private spaces. It comprises several groups or small art collectives, living with few rules and obligations. Its psychogeography feels freer, than 9 de Julho, yet an air of deeper suspicion towards outsiders is also apparent. It is organised along similar lines, with each floor having its own unique composition and set up. The occupation grew out of the need for independent spaces for the production and exhibition of art in a city where market speculation has driven out cultural uses from the centre other than those subsidised by the state or by institutions such as banks. All decisions are made by voters at regular communal assemblies. Fifty percent of residents come from outside of Brazil, mostly from other parts of Latin America but also the USA and former Soviet republic of Georgia.

There is a strong ethos that social transformation can be brought about through the medium of art, and this has been demonstrated through two art biennials, the latest coinciding with the much more self-important São Paulo international biennials held in the urban island of Parque Ibirapuera (Ribeiro and Passos, 2018). The most recent biennial at *Ouvidor* in 2018

built upon the public service ethos by offering a series of 24 workshops across an intense programme in creative arts such as tattooing and cinema with open talks on gender and indigenous issues, often ignored in Ibirapuera. Nowhere is the commitment to public engagement more apparent than at the *Skatepoint*, a skate park located in the garage of the building where local children are educated in the urban art of skateboarding. The skatepoint has been instrumental in facilitating exchange between non-traditional groups from varying economic and social backgrounds.

The threat posed by the criminalisation of occupation has forced the residents to formalise and build links with other occupation movements across the city, not least in the wake of the fire at Paissandú (Zaremba et al., 2018). Residents explained how after that fire occupations around the city came together to house the victims, make food and offer support. What was previously a detached utopian project had to legitimise itself in face of government pressure to close dangerous squats in the wake of the fire. This encouraged the residents to organise more formal groups around legal issues, construction and electricity, and ultimately to build stronger network connections with the other movements in the city. Like in *9 de Julho*, these networks offer an amount of protection to the occupation, providing them with shared resources and support, and more visibility. Similar to *9 de Julho*, residents see their sustainability - in uncertain political times - through more engagement by opening the doors and allowing in the public to experience the social value of the occupation. They also see the importance of demonstrating alternative models of cohabitation within a housing crisis and protecting (cultural) rights to the city in a context of rampant speculative development in the centre. From this prototype, the organisation hopes to build a real centre of culture, operating under a sustainable business model, while maintaining spaces for living and working. Strategies for self-management – a key component of the occupations in São Paulo – is further examined as a foundation for building housing equality in the next section.

5.1.4 Summary of the case study in São Paulo Centro

What is certainly clear from the literature review, and subsequently verified through action research, is that occupation is a valid means for attaining spatial rights in the centre of São Paulo. Many of those interviewed saw the struggle for housing and the right to the city directly connected to the wider civil rights movement in Brazil as a mechanism for engaging both local and federal government to deliver on rights set down in the Brazilian constitution and

subsequent legislation such as the City Statute. The documented 206 housing occupations that are contained among the languishing vacant - often public - buildings around the city are necessary structures providing architectures for resilience for 45,000 families in that city (Santiago, 2018). They draw much needed attention to what other researchers deem to be the consistent *"policy failure"* of *"neoliberal governance" in* that city (De Carli and Frediani, 2016:337; Lipietz, 2008; Parnell and Robinson, 2012), in which selective gentrification and the commodification of housing has displaced communities and left many living in perilous peripheral situations. The tactics of an insurgent citizenship to uphold human rights in the city of São Paulo will be increasingly relevant in the context of the new Brazilian administration and the proposed criminalisation of occupation. Further research is needed to understand the impact of this politics on citizens, residents of occupations, and to understand how laws around the social function of property can be used to support the rights of occupiers. The *"emancipatory potential"* of occupied spaces will depend on the *"concrete practices"* of their communities, whether spaces are open or closed, and *"how universal the content of their experiment is, and whether they put into practice new emancipation forms that challenge the dominant order"* (Štiks, 2017:35). As we have seen, communities also have to be wary of being co-opted by the establishment through tokenistic participation processes. The work of architects such as the Chilean Alejandro Aravena indicates that worthwhile strategies can emerge through such holistic approaches (Mota and Allweil, 2019). Further studies could focus on the part that social enterprise, entrepreneurship and collective self-governance have to play within this ecosystem and what new models of employment and integrated service delivery could support enduring resilience for these communities.

5.2 Yugoslavia's vision of a spatial Commons: Housing for All in New Belgrade

The importance of housing for generating social capital in communities and promoting resilience is widely recognised. Research on social innovation in the built environment supports open approaches to planning based on the coordination of housing policies, rights and urban development. Still, a global housing crisis reveals structural failures in how governments approach housing provision, exacerbated in recent times by neoliberal governance policies. Researchers calling for multidisciplinary approaches to planning recognise that transformation will be powered by alternative economic systems or hybrids of our current models. The

examples of other (political and economic) systems may reveal strategies for contemporary planners.

5.2.1 Background

In the twentieth century, Yugoslavia proposed a model of housing for all based on a more emancipatory reading of Marxism. The country developed an industry for high-quality housing production shaped by its unique system of self-management, to be abandoned after the breakup of Yugoslavia in the 1990s. This chapter takes a closer look at an understudied example, to understand lessons for alternative approaches to planning for housing and community. The second of three case studies looking at architecture(s) for resilience, it focuses on the development of New Belgrade from the 1950s as the extension of the country's capital city. On-the-ground research was conducted over a number of months in Belgrade, supplemented by findings from a questionnaire circulated to regional academics. It found many advantages with the old system, and that a housing crisis has re-emerged in Belgrade since the dissolution of Yugoslavia.

In their seminal book *In Defense of Housing*, Madden and Marcuse (2016) paint a bleak picture of the contemporary housing crises facing cities across much of the world. While not a new development, neoliberal governance is seen as a major driver of housing inequality in the current era, due to the financialisation of real-estate and the commodification of home, giving rise to displacement and homelessness. There is a competition between the home as a living social space and as a means to accumulate wealth. The book reminds us that such inequalities were well documented in the works of Friedrich Engels, and how the squalid dwelling conditions of the working class informed much of his theories of socialism. Writing in *The Housing Question*, Engels noted that *"all oppressed classes […] suffered more or less uniformly"* from poor housing (Engels and Dutt, 1935:21). Engels understood the connection between the prevailing economic model and the (in)ability of the system to provide dignified housing, and that an integrated policy approach was required to address it. *"As long as the capitalist mode of production continues to exist it is folly to hope for an isolated solution to the housing question"* (Engels and Dutt, 1935:23). In reference to Engels, Madden and Marcuse (2016:9) make clear that housing *"is becoming an ever more important site for the reproduction of the system"* and how planning and urban development are driving the main processes of capitalism today. In mapping a dysfunctional planning system, and setting out failures made by today's

policymakers, the authors highlight that a goal of '*Housing for All*' was once a credible aspiration. As seen with the *US Housing Act of 1949*, this was a national ambition for several countries in the post-war period (Madden and Marcuse, 2016). These policies saw large-scale urban renewal and social engineering projects begin across the United States and Western Europe, which became sites of poverty and social isolation within decades due to poor public services and lack of opportunities (Sennett, 2012). At that time, planning orthodoxy dictated that renewal meant large-scale clearance of underperforming neighbourhoods, and the building of new housing from scratch. The existing built environment was seen as an obstacle to the planners' vision for 'progress', which considered that poverty should be hidden away in concentrated high-density projects (Sennett, 2012). Authorities chose to invest in mass-housing infrastructure (blocks and projects) as opposed to investing in citizens and their futures. Later governments pursuing a market capitalism – overlooking the underinvestment in services, public realm and community – deemed social housing to be a policy failure. Responsibilities for public housing were passed to the private sector and, like in the UK, public value was stripped from social housing assets from the 1980s onwards (Rolnik, 2019). Given the scale of the current housing crisis in the UK, there is a need to take another look at models for societal housing that take advantage of social innovation in policymaking and planning of housing. Like many of the related social, economic and environmental challenges facing citizens, the housing crisis requires a nuanced approach where collaboration between disciplines can inform sophisticated responses. Progressive voices such as George Monbiot and Marianna Mazzucato are united in their call for a wholesale re-examination of the underlying economic model to provide a platform for a more equitable society (Sennett, 2012; Monbiot, 2017a; Mazzucato, 2018; Rolnik, 2019). An examination of the past can inform opportunities for the future. In doing so, the housing policies of the Socialist Federal Republic of Yugoslavia (SFRY) warrant closer examination to identify elements, which could inform the design of new housing typologies, models of procurement, delivery and governance. This chapter examines the Yugoslav social housing system, focusing on the case of New Belgrade, a brand-new extension of the capital city.

The 'market socialism' (Uvalić, 2018) espoused by the SFRY sat somewhat ambiguously between the two economic poles of capitalism and socialism, offering a 'third way' (Stojiljković and Ignjatović, 2019). It had a unique system of governance cultivated in constitutional reforms and self-management that allowed the country to maintain an open and business-friendly

society through collaboration among collective enterprises and small private businesses (Liotta, 2001; Uvalić, 2018). All through the era of the Cold War, Yugoslavia continued to forge its own path and influence on the international stage, in terms of both policy and architecture. Pursuing a policy of 'housing for all', the construction industry in Yugoslavia grew into a sizeable and complex ecosystem of large contractors, teams of architects and offices for development and innovation (Sekulić, 2012). Self-management meant that decision-making was devolved to the workers, who through union and assembly would resource the public service and realise the political aims of the federation of multi-ethnic states (Unkovski-Korica, 2014). Prototypes for infrastructure and housing, refined in the modernisation of Yugoslavia, were exported internationally alongside knowledge and services in the final decades of the last century. Many of the companies that grew to solve the country's demand for dignified housing and a decent quality of life, became providers of housing and infrastructure solutions on an immense scale, still operating globally (Sekulić, 2017). The high-quality apartment is considered to be *"the most advanced mass product of Yugoslav self-management",* even though universal access to social housing was not completely achieved (Mrduljaš, 2018:50). While the country did not sustain itself long enough to fulfil these ambitions, a culture of innovation-inspired experimentation with planning and housing policy has attracted renewed interest from scholars (Stierli et al., 2018). In an essay that accompanied the recent MoMa exhibition on the architecture of Yugoslavia, Mrduljaš describes how self-management attributed "*a great deal of agency to architects and urban planners*" (Mrduljaš, 2018:40).

This section examines the policies and practice under that system to identify what processes, if any, could be adapted to propose solutions to contemporary housing challenges. The study comprises a comprehensive literature review and the results of field research in Belgrade that included interviews with a number of academics in the region and a survey on specific aspects of self-management and the Yugoslav system. The questionnaire was circulated to identified experts and activists in order to collect insights into the strengths of the previous system, and the failures of planning in the transition to capitalism since the fall of Yugoslavia.

5.2.2. Historical Context

Yugoslavia's position as something apart – an 'other', a middle ground or combination of one or more things – was a legacy inherited from its location in the Balkans, situated as it is at a

crossroads in Europe. Belgrade in Serbia became the capital of the multi-ethnic federation when it was first united as the Kingdom of Serbs, Croats and Slovenes in 1918. Blagojević (2003) writes extensively about issues of housing in the era of the Kingdom of Yugoslavia, when the state sought to set the Western Balkans on a path to development and emancipation - and improve living conditions, which were then among the worst in Europe. Sat at the interface of the Habsburg and Ottoman Empires, Belgrade and its hinterland was used to shifting borders and allegiances under various forms of despotic and colonial rule. Such a position meant that until the early twentieth century, many citizens of Belgrade were migrants from somewhere else, with loose and often transient relationships to city and community. Migration from the rural countryside to expanding urban areas in search of employment and social mobility was a feature of the industrial era and meant that Belgrade had some of Europe's most devastating slum conditions. Between the World Wars, a number of housing typologies developed within the city in response to the acute housing crises, setting it on a determined path to modernism (Blagojević, 2003).

The close of the Second World War found Partisans in power in Belgrade, bringing what then became the Federal People's Republic of Yugoslavia (renamed in 1963 to Socialist Federal Republic of Yugoslavia) into the orbit of communist Eastern Europe. The immediate task was the rebuilding of Belgrade, and indeed the federation, the state having been ravaged by war (Topalović, 2012). As Belgrade regained its position as an important regional capital, innovative apartment arrangements were designed in distinctly modern urban developments. The mammoth construction drive required another wave of migrations from the countryside, and to the other urban centres to support the industrialisation of Yugoslavia, as the provision of roads and communication infrastructure preoccupied the state for its first decade (Topalović, 2012). However, as results of industrialisation brought prosperity, the housing question continued to dominate public discourse into the late fifties (Blagojević, 2004). Plans for the expansion of Belgrade were developed in the decade after the war and conceived under the ethos of Brotherhood and Unity (Le Normand, 2006). This was an overarching tenet of Yugoslavia – to unite its constituent republics – which developed significantly as an independent narrative for socialist development following its pivot away from the Soviet Union in 1948 (Le Normand, 2006). Opening up the country to both Western (capitalist) and Eastern (communist) schools of thought allowed Yugoslavia to build its own interpretation of Marxism, allowing for a market and therefore marketplace of ideas (Stojiljković and Ignjatović, 2019).

Much of Yugoslavia's economic success was predicated on its ability to produce and interact in both markets, and to trade labour and services to the developing post-colonial world (Jelača et al., 2017).

The disciplines of architecture, urbanism and the provision of social infrastructure benefited hugely from Yugoslavia's unique world position as a founding member of the non-aligned movement (Sekulić, 2017). Not least as these professions developed schools of expertise and technical solutions that were greatly exported through both internal and export markets (Stojiljković and Ignjatović, 2019). The Yugoslav apartment became a desirable 'socialist product', growing out of a well-defined need for quick, affordable and comfortable quality housing (Alfirević and Simonović Alfirević, 2015). Housing typologies and their design as part of a much broader conception of self-managed living hold much currency for today's researchers. Under the system of self-management, the people were responsible for the provision of housing at the local level (Johnson, 2018). State enterprises were required to provide housing for their workers and draw up detailed lists of specifications for individual families (Archer, 2018). Participation was encouraged through the '*mesna zajednica'*, a voluntary local community assembly interested in improving the management of their local area (Johnson, 2018). Although the system produced a distinctly technocratic planning process, the ideas behind self-management offer hope for a more democratic approach to planning and housing provision. In practice, self-management in the planning of housing only truly occurred at an institutional level, but greater stakeholder participation at the citizen level was envisaged in theory (Johnson, 2018). Beginning with a look at the Yugoslav approach to housing, this case study aims to identify features of self-management that could be adapted for communities today.

5.2.3. Yugoslavia and the Housing Question

The housing crisis affects around one billion people worldwide who are without access to decent housing (Madden and Marcuse, 2016; Rolnik, 2019). Rolnik (2019) joins Madden and Marcuse (2016) in pointing out that for many governments, housing provision is viewed as a technical problem obscuring the political and economic root causes. Their work documents how residential development has become a force for global capitalism under an increasingly unsustainable model of continuous growth - as governments shun investment in public housing. Under a capitalist system, housing is *"produced and distributed as a commodity"*

(Madden and Marcuse, 2016:9). This indicates that enduring housing inequalities are, by design, an outcome of the system *"working as intended"* (Marcuse, 1988; Madden and Marcuse, 2016). Capitalism inevitably produces a conflict between housing as home and real-estate, that of living environment against property. To confound an already complex problem, in our digital society of fast trading and rapid wealth accumulation, the home is not only becoming ever less a social good for social protection, but buildings, land, labour and property rights are all readily traded as commodities. The global financial crisis of 2008 is seen as evidence of the enormous social risk of property speculation as the main source of wealth creation – as anticipated by philosopher Henri Lefebvre (Madden and Marcuse, 2016; Rolnik, 2019). The OECD estimated that in the aftermath of the crisis, corrupt real-estate practices and deregulation may have resulted in a thirty percent rise in house prices (Andrews et al., 2011). Globally, the contemporary housing challenge appears more acute than ever. Citing the work of Polanyi and MacIver (1944), Madden and Marcuse (2016) see the commodification of housing as a political project, one that has roots in the enclosure movement of early modern England. Their reading indicates that the housing system has become unstable due to the aggressive and predatory nature of neoliberal speculative development. Given that the ability to pay for a residence is unequal while the requirement for shelter is universal, the need for alternative or de-commodified models of housing is considerable. Overcoming housing inequality therefore means seeking out alternative models to capitalist residential development, opening up 'the housing question' to a host of *"strategic possibilities"* (Madden and Marcuse, 2016:9).

Looking at approaches to solving *the housing question* in other – and hybrid – economic systems from the near past or in pre-capitalist societies can reveal examples of social innovation, and therefore new or renewed forms of knowledge to be considered in light of our current challenges. To this end, Madden and Marcuse (2016) promote housing as a *"vehicle for imagining alternative social orders"*, in the same way as Friedrich Engels did (Madden and Marcuse, 2016:12). They note how Engels' (1935) work among ghettos of Irish migrant workers displaced by famine and the effects of callous early globalisation policies, led him to understand that emancipation for workers meant also dealing with housing (Madden and Marcuse, 2016). Engels was preoccupied with a housing system governed by a small and elite cadre of actors, who held a disproportionate influence on the planning process, not unlike today (Madden and Marcuse, 2016). Socialist Yugoslavia was influenced by Engels' ideas, intent

on creating a humane system, where housing is not real estate, but home (Madden and Marcuse, 2016). Engels' work on the conditions of the working class in England inspired early twentieth-century planners in the Western World to enforce regulations in relation to the sanitary conditions of housing and standards of development that became models of social protection in the earliest socialist world (Madden and Marcuse, 2016). In Yugoslavia, housing was confirmed as a social right, and early federal government saw housing for all as a significant factor in bringing about a prosperous and aspirational egalitarian society (Krstić, 2018). Workers' self-management allowed for a rapid development of the country and represented a significant improvement in the quality of life for a majority of Yugoslav citizens (Krstić, 2018). The whole society became responsible for providing housing for its citizens (Krstić, 2018). In the first few decades of the state, the Yugoslav government recognised the social value of housing, abolishing the rent-seeking practices of real estate and nationalising property into state resources and enterprises (Krstić, 2018). As a mechanism for equal distribution and management of society, a right to housing was introduced as part of the socialisation of property (Sekulić, 2018). This ended centuries of class division brought about through controlling access to housing, and the neglect of social use in favour of its economic value (Krstić, 2018).

Yugoslav cities were marked by a more homogeneous social-spatial structure than western counterparts, safer and more sustainable, compact and equipped with better public transportation (Krstić, 2018). Krstić (2018) notes that in Yugoslavia, architecture became *"the conspicuous domain of expression of the political and economic power of the newly formed state"*, and had a role in *"directing […] policy of social modernisation"* (Krstić, 2018:140). Krstić (2018) reports that, characteristic of a *"socialist self-managed urbanity"*, the policies of Yugoslavia prioritised the use value over the exchange value of property and the "*central concept of the community as the provider of all of life's values and needs"* (Krstić, 2018:146). Yugoslav urban planning was a spatial application of these ideals, providing for genuinely heterogeneous neighbourhoods, which were the outcome of a distinct economic system within a unique ideological framework (Le Normand, 2017). Self-management meant that this *"framework was constantly being negotiated"* within a polycentric governance system that necessitated an agile *"perpetual socialist reinvention"* (Le Normand, 2017:173). Stojiljković and Ristić Trajković (2018:345) note that a *"synthesis of the collective and individual"* was one of the *"basic constructive principles"* of society. Architectural theories of the period – that

addressed rights to housing, rights to the city and to participation in greater decision-making – were heavily influenced by Lefebvre, who himself studied the Yugoslav model in the seventies (Stanek, 2011). Stojiljković and Ristić Trajković (2018:333) emphasise that *"attempts to articulate an alternative Marxist ideological framework and offer a platform for a responsible critique of Marxism were an important segment of the politics and culture of socialist self-management"*.

5.2.4. Yugoslav self-management and the commune

The Yugoslav housing policies' capacity for experimentation through an iterative political system of self-management are lamentably understudied outside of the Western Balkans region (Mrduljaš and Kulić, 2012). Yugoslavia's unique position in geographic terms – and also as a non-aligned state – kept it open to new ideas and ways of considering the management and organisation of space (Mrduljaš and Kulić, 2012). After Tito's break with Stalinist socialism, Yugoslavia was able to test its own theories for improving the conditions of the people, and architects were tasked with giving form to a larger project of social emancipation (Mrduljaš and Kulić, 2012; Stierli et al., 2018). Socialism in Yugoslavia emerged by way of a popular revolution at the grass-roots and was not imposed on the population in the same way as in the Soviet Union and its satellite states (Uvalić, 2018). The system represented a true alternative to the dominant economic systems as an indirectly-controlled market economy combining Keynesian elements with Marxism (Le Normand, 2006). Self-management allowed for successive economic reforms and policy experimentation that set Yugoslavia apart, supported internationally by its status in the non-aligned movement (Uvalić, 2018).

In contrast to centrally-managed socialists states, local municipalities (*opštine*) were tasked with financing and managing construction (Archer, 2018). This represented a more democratic approach than the developmental approaches of both East and West, defining a distinct political narrative for the federation (Unkovski-Korica, 2014). Self-management also encouraged the participation of citizens in decision-making, offering more humanistic visions of industrial civilisation from those that were being proposed in Central and Eastern European societies (Johnson, 2018). In 1955, Edvard Kardelj, the ideologue of self-management, developed a legal framework for the system, aimed at the decentralisation of decision-making (Bojić, 2018). His vision was for political participation to be enabled vertically through a bottom-up process, and horizontally from the central state to the community (Bojić, 2018). For

Kardelj (1981), this would enable a *"withering away of the state"* and the creation of what Lefebvre called *"innovative networks of self-managed local organisms"* or communes (Kardelj, 1981; Bojić, 2018:1). Bojić (2018) does not see the commune as having an established political shape, but as "*a dynamic social and political construct which actively took part in the shaping of socio-economic process"* (Bojić, 2018:3; Delaney and Leitner, 1997). Kardelj's market reforms created complex construction and funding mechanisms that allowed for more ambitious, integrated spatial design and interdisciplinary planning frameworks (Mrduljaš and Kulić, 2012). Yugoslavia developed a sophisticated platform for knowledge exchange around communal self-management and published a magazine which was used to create a feedback loop and debate issues related to both ideology and everyday life (Bojić, 2018). Self-managed communities-of-practice were established to coordinate the interests of providers and end-users in areas such as education, health and social welfare in a holistic way (Uvalić, 2018).

Public housing became part of the socially-owned sector as self-management was rolled out (Unkovski-Korica, 2016). The social sector, which financed the majority of housing, instructed enterprises to build homes for their workers, who contributed a share of their income to the Housing Fund (Le Normand, 2008). All enterprises invested four percent of their net income into housing provision, intended to alleviate social differences and inequalities (Petrović, 2001). A principle of egalitarianism underpinned the distribution of housing, as units were allocated on the basis of need, and distributed through the workplace (Le Normand, 2008). Employers were tasked with putting together lists and assigning apartments, with local housing boards taking responsibility for distributing older state housing (Le Normand, 2008). From the early fifties, spaces for public dialogue (such as travelling exhibitions) were created to allow citizens to imagine aspirational living solutions for their socialist circumstance (Mrduljaš and Kulić, 2012). Design itself would play a part in the development of self-management, with Yugoslavia not only exporting technically superior mass-housing solutions but also furniture and consumable goods to fill these living spaces (Mrduljaš, 2018). In effect, Yugoslavia was able to market an entire model for socialist living, with self-management enterprises building whole cities for newly independent, mostly non-aligned states (Sekulić, 2012). A recent exhibition at MoMA in New York has brought a new focus on the *'utopian'* Yugoslav project and how its values were manifest in spatial terms. The book *Towards a Concrete Utopia* that accompanied the exhibition illustrates the power and responsibility of architects in Yugoslavia to *"give material shape to a larger social project"* (Stierli et al., 2018:8).

It indicates many of the unique conditions that provided for a *"continuous exchange of concepts and ideas between architecture and self-management socialism"* (Mrduljaš, 2018:41). Writing in the same volume, Mrduljaš (2018:40) explains how self-management cast architects and planners in the role of intermediaries in the dialogue to help *"articulate vaguely defined new societal forms and relations"*. Influences for early planning and architectural design from the early fifties (when Yugoslavia had the second-highest growth rate in the world) took their cues from Le Corbusier and the Athens Charter, with the CIAM International Conference for Modern Architecture meeting in Dubrovnik in 1956 (Mrduljaš, 2018). While architects could import design ideas and even travel abroad, a centralised system encouraged experimentation at the local level through schools of architecture with individual ambitions emerging in Belgrade, Zagreb and in capital cities across the constituent republics (Stojiljković and Ignjatović, 2019).

Yugoslav architects were motivated by the task set by the state to innovate the optimum solutions for living that could take the greatest advantage of progress in technology and organisation (Alfirević and Alfirević, 2018). While self-management had withered the central state away in favour of stronger regional governance, at a community level, lack of real participation allowed local discontent to spread. Following the recession of the eighties, grievances around housing dominated the public discourse in the years before the conflicts began (Archer, 2018). Reforms that sought to improve the construction sector tied standard of living within a given territory to its economic output and productivity, reinforcing stark differences between communes (Petrović, 2001). Opinions on the merits of the housing system differ among academics – as much as between citizens – and are coloured by personal experience and political positions. Some scholars even put the collapse of Yugoslavia down to the state's inability to solve the universal housing question, allowing discontent to fester among individual republics due to the large discrepancies in quality of life (Krstić, 2018; Uvalić, 2018). This is a stretch too far however, as the stark differences in western societies (the US and UK for example) where inequality is high, have (so far) not led to their collapse. The wars in the region did nothing to improve conditions in Yugoslavia's successor states, which have seen sustained emigration and population loss (Uvalić, 2018).

As interest in self-management grows in many areas of scholarship, deeper investigations will reveal the fault lines in the system that ultimately led to its collapse, which can inform any evolution of the concept. Although continuously inventive, Yugoslavia was

unable to conceive of a model that could guide economic and social planning at the federal level while allowing republics to pursue policies in line with their specific interests at the entity level (Uvalić, 2018). Up to and during the dissolution of Yugoslavia, external actors encouraged individual states to abandon self-management, perceived to be an undemocratic imposition of the communist party (Crawford, 1996). A power struggle ensued among nationalist parties unhappy with the Milošević leadership of the communist party, exploding the federation in a bloody conflict (Uvalić, 2018). The nationalist parties that emerged to lead the newly-independent states introduced a neoliberal capitalist economic system that allowed foreign capital to cheaply purchase production resources in former Yugoslavia, previously owned by the workers (Uvalić, 2018). The cost of transitioning to market capitalism has been great, with studies estimating that it could be two hundred years before the Western Balkans catch up with more developed countries in Western Europe (Uvalić, 2018; Sanfey and Milatović, 2018). Despite its limitations, the system allowed workers to participate in decision-making related to their enterprise that led to improvements in their general quality of life, including housing (Uvalić, 2018). While the virtue of participation emphasised in self-management doctrine did not translate into a genuine participation of citizens in urban or regional planning, the participation of state enterprises encouraged a culture of open innovation (Bojić, 2018). New Belgrade became the laboratory for these experiments, as did newly-planned neighbourhoods in Zagreb, Sarajevo and Skopje.

5.2.5. Social Innovation and experimentation in New Belgrade

Conceived as an exercise in statecraft and a solution to the city's chronic housing shortage, New Belgrade was to be the administrative centre of the federal socialist republic. Blagojević (2005) explains how the development of New Belgrade became a powerful emblem for the newly formed Socialist Federal Republic of Yugoslavia. It presented an opportunity for policymakers to develop a modern theoretical position on urban design, based on analysis of a model socialist economic system. An entire new city modelled on the CIAM principles would occupy virgin territory between the rivers Sava and Danube. Equally, Topalović (2012) sees New Belgrade as an attempt to render an architectural representation of the emerging socialist federal state of Yugoslavia. In plans emerging in the early fifties by the architect Nikola Dobrović, the new city is monumentally laid out with a train station at its centre, creating a focal point for civic assembly. This laid the groundwork for a series of architectural

competitions that stimulated architects in the new state to consider novel approaches to both theory and practice. Scientific urban-planning approaches that separated functions and could inspire social transformation guided a vision for the city. This was developed to eventually include a sequence of three public squares at its core, symbolising the three layers of socialist public life: one for public assembly, one for culture, and the railway square indicating movement and commerce. This plan itself was never realised, as the mammoth and more immediate task of providing housing in New Belgrade continued to take precedence. New Belgrade became a showpiece of the state's commitment to housing, resulting in housing areas with a capacity to house 5,000 to 10,000 inhabitants, managed by locally-elected units (Topalović, 2012). During the sixties and seventies, New Belgrade continued to be one of the largest building sites in Europe, constructing high-density housing even into the mid-eighties.

New Belgrade and its regional counterparts throughout Yugoslavia sought to provide new neighbourhoods following the modernist principles of the Athens Charter. Housing typologies and designs were as much influenced by socialist thinking in neighbouring countries as the architecture of the welfare states of Northern Europe (Stierli et al., 2018). The scale of the housing required allowed architects to test new theories and residential concepts mindful of three principles: new systems of prefabrication, innovative aesthetic interpretation, and experimentation with spatial organisation (Alfirević and Alfirević, 2018; Alfirević and Simonović Alfirević, 2015). Easy to build and replicate, flexible, complex prefabricated solutions are the norm, standing in stark contrast to the banal, repetitive boxes of their Soviet counterparts. Apartment typologies are to a western standard, yet provide subtle clues as to the socialist actualities of collective living. Designers were tasked with devising solutions that made rational use of available space within the plan, against minimum standards (Alfirević and Alfirević, 2018). Conferences, colloquia and architectural competitions were all seen as ways to stimulate the spreading of knowledge and ideas (Alfirević and Alfirević, 2018). Open adaptable solutions, flexible in their design, were favoured by communes and led to a culture of prototyping (Alfirević and Simonović Alfirević, 2015). The off-site construction IMS Žeželj system, for example, had a better technical performance than any available at the time (Krstić, 2018).

During the mid-twentieth century, the Yugoslav economic system followed a foreign policy of international collaboration through the Non-Aligned Movement (NAM), and influenced a number of post-colonial and developing-world countries in the pursuit of an

equitable modernisation (Stierli et al., 2018). The NAM forged relationships between Yugoslavia and countries across the Middle East, Africa, Asia and Latin America. In turn, the construction industry – manpower, design and innovation – became SFRY's biggest economic export until its demise. Before the Gulf War for example, there had been tens of thousands of Yugoslavs working on projects in Baghdad (Stierli et al., 2018). The provision of housing and social infrastructure for settlements like New Belgrade turned into a public service, giving new prominence to architectural research (Alfirević and Simonović Alfirević, 2015). It was focused on three areas in particular: prefabrication, socialist planning ideology, and humane mass-density housing (Alfirević and Simonović Alfirević, 2015). This meant that the architectural production of Yugoslavia was diverse but united under *"a common socio-political context, which enabled the cultural autonomy of architecture and provided the general framework of modernisation with its common programs, standards and resources"* (Mrduljaš and Kulić, 2012).

As the focus on New Belgrade was to offer housing, plans for commercial and leisure infrastructure remained paper dreams, meaning that the area became a dormitory suburb of the old city. Technological systems of making, a technocratic approach to management, and a technical way of interpreting social relationships were characteristics of Yugoslav planning, meaning that services and transport infrastructure were often postponed, sometimes indefinitely (Topalović, 2012). In a comprehensive account, Topalović (2012) explains how the new capital failed to deliver on goals to become the administrative centre of the new state, or to produce a metropolitan core. After Tito's death, the vast and unresolved urban plan, framed only by the large housing areas, became a source of derision of functionalism and criticisms of the state and its broader failures. However, as the goal of New Belgrade was to respond to the city's acute housing crisis, the reproduction of a new core away from the historic city was never the absolute ambition in its development. Topalović's (2012) reading of the inadequacies of the new city ignores the installation of anchor buildings such as the Museum of Modern Art and Sava Centar, serving the wider metropolitan area. Topalović concludes that a harmonious vision was never achieved in New Belgrade, due to the inability to provide either a universal or egalitarian housing solution that matched the demand of the city and state. Her view that at the metropolitan scale (and level of governance) a failure to integrate housing, a city centre and a government apparatus into a coherent form produced an orphaned conurbation, overlooks some basic planning truths. The Danube and Sava form a natural physical barrier

between the old and new city, meaning that a seamless connection can never be fully achieved. In addition, a more efficient radial expansion of the city meant that other housing estates were built in other peripheral areas. A critical reading of Topalović (2012) is therefore required when considering the success of New Belgrade, taking into account its development trajectory from inception until now. Topalović's claims that the high housing standards achieved in the 1960s were rarely surpassed in later years are unsupported by detailed evidence. This researcher's experience living in *Blok 19A* – completed in 1981 – would counter this view. Equally, the opinions of informants to both interviews and a questionnaire suggest that, overall, the housing output in Yugoslavia remained consistently high up until its fall, and has not been matched since. New concepts of collective living, open spaces designed with diversity and flexibility in mind – first inspired by the urban-planning theories of Le Corbusier and CIAM – continued to be refined and developed. These typologies have much to offer contemporary design discussion, as well as state policies introduced to control rents. Topalović's (2012) critique that political reform in the later years (a continuous aspect of Yugoslav self-management) and experimentation with economic liberalisation brought varied results, warrants greater scrutiny. Hers is one of many dissenting voices critical of the old system that may be coloured by personal and political ideology. For many other (academic) informants who responded to this researcher's questionnaire, the standard of housing – and neighbourhoods – produced in Yugoslavia have not been matched in the region since.

5.2.6. An appraisal of Yugoslav housing system

The fact that the apartments of New Belgrade continue to command some of the highest market resale values in the city is evidence that there must be a recognition among residents of the quality of buildings. Although the system of allocation was not always efficient, social mixing in housing was common. However, the project of providing housing for all was never complete as supply (slow and costly) never could meet demand (Archer, 2018). Many low-level workers, failing to reap any rewards in the large-scale provision of housing, began to build independent informal housing following traditional methods, on the periphery of big towns and cities (Archer, 2018). Early rising, short working days in Yugoslavia meant that workers could form bands of house builders – in close familial or neighbourhood groups – self-managing a system of self-building (Archer, 2018). The anti-austerity protests that took hold across Yugoslavia in the seventies and eighties took issue in particular with the lack of adequate

Fig. 15. Social housing and school in New Belgrade, Serbia (Former Yugoslavia), (Horgan, 2019).

Fig. 16. High quality societal housing in New Belgrade, Serbia (Former Yugoslavia), (Horgan, 2019)..

housing for all, and the perceived inequalities produced by the system (Krstić, 2018). Putting the ideal of social equality into practice effectively turned public housing into a powerful form of social currency for some (Topalović, 2012).

In order to bring new knowledge to the fore, with the benefit of hindsight, this researcher produced a survey – circulated to identified academics – in relation to spatial planning and housing production in the former Yugoslavia. This exercise proved to be difficult as a large majority of those who were sent the questionnaire felt unable to respond. This they put down to not being sufficiently informed about the old system, or the nature of civic participation in planning at the time. Many of those with direct experience have passed on, are no longer in academia, and given the tragedy of Yugoslavia's collapse, many others are inclined to forget. Those that did respond, however, were on the whole very complimentary of the system, while recognising the democratic deficits associated with Yugoslavia's communism, market socialism. *"At that time, there was only one, Communist Party. The party itself proclaimed socialism, equity, brotherhood. The Communist party had a lot to do with the way all local social organisations functioned, at work, at mesna zajednica, you name it... So equity, brotherhood, solidarity, socialism principles in general, were all worked out at these political gatherings in locale and then transposed to everyday local social contacts"* (SQ4). This solidarity was evident in the youth brigades (*omladinska brigada*) that were drafted in from all over the federation to build large infrastructure projects, such as New Belgrade. One academic explained that, *"Belgrade is the best example of this. My 90-year-old aunt participated in building New Belgrade. She still mentions this... [they are] some of the best memories of her life, especially the friendships*" (SQ4).

Respondents found that the old system was socially innovative in the way that it allowed a design based on need, brokered through employment. *"Work was the base to obtain a place to live. Flats and residential buildings were state property. In every work organisation, there was a commission to give flats, there were applicants, and there were ranking systems and ranking lists"* (SQ4). The nature of collaboration among stakeholders in relation to spatial planning and housing was made easier by the one-party system. While non-democratic, it enabled a *"rather smooth coordination and implementation of political decision through various technical sectors. Spatial planning was one of the major instruments of the housing policy and the planners were one of the key stakeholders of the housing provision process"* (SQ3). This allowed for networks to develop, made up of relevant stakeholders from the design

and planning professions, who could influence overall planning and developing strategy, "*making experts at distinguished positions important actors in the development of new ideas and strategies"* (SQ1). The popularity of architectural and planning competitions allowed these networks to set a design agenda that could guide social and spatial innovation. "*The synergy between the science, education and housing production has given lots of examples of good architecture, decent living standards and neighbourhoods, all that now, thirty years later, is very rarely found*" (SQ3).

For informants, the biggest strength of the Yugoslav system is how it proposed universal access to housing – albeit more of an aspiration than a reality. *"Housing was accessible to all (employed in the public sector) under the same conditions... Lots of people remained outside this system"* (SQ3). For those that did have access to a socially-owned apartment in developments like New Belgrade, the *mesna zajednica* (where decision-making took place) alongside other communal spaces *"played an implicit role in shaping the idea that the building's residents were collectively a social unit within the broader political system"* (Johnson, 2018:11). One informant describes this council as a *"para-statal organisation… [it] didn't have any significant stake in the decision-making process"* (SQ3). This informant understood the *mesna zajednica* as another arm of the Communist Party, and *"just an exhaust valve for the pressure for the democratisation of the country"* (SQ3). To a certain extent, Yugoslav self-management did allow citizens to participate in decision-making on spatial planning, housing and neighbourhood organisation, *"but in fact, all the organisations where derivates of the Communist Party network"* (SQ3). While evidently managed in a very top-down way, the participation set in place through the *mesna zajednica* did have positive results in terms of a sense of community ownership, impacting good relations.

Decision-making aside, housing policy helped to decrease social inequalities between minority groups, *"Roma, for example, were obtaining these so-called 'solidarity flats'"* (SQ4). Today, Roma are among the most marginalised groups in Serbian society, confined to container-style developments in the periphery of the city (Vilenica, 2019). *"We must also take into consideration the understanding of living standard… part of this standard were good relations with the neighbours. [The] social aspect was more important, and material [aspect] less important than today... because that was the overall system. People were not as materialistic as today"* (SQ4). While some respondents revealed a nostalgia for the Yugoslav system, others remain critical. *"The housing cooperative system was innovative and functional,*

although homeownership [was] discouraged as an undesirable paradigm for a socialist society" (SQ3). For those who were not in the employ of the state, their housing needs were overlooked, and self-build responses were portrayed as criminal or anti-socialist. As a result, those unable to access housing lists constructed individual houses extra-legally, with "*informal construction as the most convenient affordable housing provision"* (SQ3). A direct consequence of which is the large proportion of informal settlement that encircle Belgrade and other cities of the former Yugoslavia today (Zeković et al. 2015).

When one considers the feedback of academic informants to the questionnaire, the positives outweigh the negatives. The Yugoslav housing system allowed flexibility for both users and designers, resulting in *"rather well developed new settlements with mixed social groups with access to all the main communal and social services, at a decent standard"* (SQ3). The intervention of state enterprises in providing for workers produced a form of circular economy in the housing stock. *"With enlargement, the family could move from a smaller to a bigger flat. The smaller flat had to be given back to the work organisation and someone else would then get it"* (SQ4). Respondents are markedly less satisfied with housing provision in the successor states, however. *"The situation has radically changed"* (SQ4). Yugoslavia's housing *"shaped rather healthy communities sharing high societal values that seem totally lost today*" (SQ3).

5.2.6. The Right to a New Belgrade

The concept of Yugoslavia itself became an inspirational platform for socially progressive innovation in architecture. This translated into the production of socialised housing informed by an expert evidence base and knowledge culture, supported by high-quality research, technical prototyping and testing on smaller scales (Alfirević and Simonović Alfirević, 2015).

When examining the designs for the city of Skopje, reconstructed following an earthquake in the former Federal Republic of Macedonia, the quality of this output is particularly evident. Skopje became *"an open-air classroom"* for Yugoslav architects to collaborate with internationally renowned thinkers such as Kenzo Tange (Stierli et al., 2018:20). The unique geopolitical context within which Yugoslavia operated enabled an unparalleled amount of knowledge transfer. The state understood housing not as a commodity and emphasised its social use value, supported by a user-centred approach to design and a community-centred approach to planning.

Bojić (2018) refers to a 1983 proposal by Petrović and Žuljić as the first regional planning strategy based on an interdisciplinary scientific approach towards greater spatial equality (Bojić, 2018). While spending time living in *Blok 19A* of New Belgrade, the researcher observed that a legacy of spatial equality remains in the city, visible not least in the enduring heterogeneity of the inhabitants. Conducting interviews in the same block, Johnson (2018) found that *"today the rhetoric of creating an egalitarian society has gone, but that vision still seems present in the building's structure"* (Johnson, 2018:20). She puts this down to a nostalgia that has grown around self-management, and its contribution to social cohesion, which was in doubt at the time. Johnson (2018:22) demonstrates that *"the materiality of the building played a role in making self-management a meaningful category and a lived experience for residents"*.

What does appear as a significant failure in the Yugoslav system, however, was universal access to high-quality apartments, and how units were allocated to citizens at the level of the smaller state enterprise that commissioned their production (Petrović, 2001; Archer, 2018; Johnson, 2018). The opaque system of social property became harder to maintain as political reform continued. However spurious, some commentators see correlations between a failure to address the housing crisis and the fragmentation that preceded the eventual breakup of Yugoslavia (Krstić, 2018). This researcher's survey found that while neighbourhoods were planned in such a way as to connect people through mixed tenure and a good quality urban realm, many people remained outside the system which directly excluded a part of the population, ignoring *"real housing needs and the potential of individuals to directly contribute to solving their housing need*" (SQ3). According to interviewees, *"many people today in Belgrade have lost a sense for any kind of comfort, they live in all kinds of adapted and inhumane forms"* (SQ2). The housing of New Belgrade *"shaped rather healthy communities sharing high societal values that seem totally lost today"* (SQ3).

Belgrade is still reeling from the upheavals of the nineties, and its urban fabric bears deep scars, notwithstanding the fissures left by the NATO bombing of 1999. The stock and production of public housing are at record low levels (Hirt and Petrović, 2011; Vilenica, 2017). Absent planning policy in the wake of Yugoslavia's collapse saw the earmarked but ultimately unrealised civic spaces of New Belgrade infilled with aesthetically questionable commercial developments. The move to market capitalism has added new construction in parts of New Belgrade while cutting away at common green spaces and parks. While commercial uses have brought new life in areas, the inability to deliver on such grand monumental aspirations for

New Belgrade means that for Topalović (2012), the central issue that remains is how diverse elements of political, social, cultural and economic life can be integrated, represented and reinforced within a coherent framework. Such a tangible and coherent vision for New Belgrade, and indeed the entire metropolitan region of Belgrade, is unfortunately lacking under the current political administration in Serbia (Mojović, 2006; Hirt and Petrović, 2011). Topalović (2012) warns that urban planning is the function of the social system that has unravelled the most in the wake of the Yugoslav state's collapse, precipitating the lowering of professional standards that has accompanied neoliberal governance in Belgrade (Topalović, 2012). In contrast with contemporary planning in the Republic of Serbia, the holistic and evidence-based approaches of Yugoslav planners are of a noticeably higher quality. The lack of strategy for the city – and one which citizens feel ownership over – is one of the most significant outcomes of the move from market socialism to free-market capitalism for the built environment in Yugoslavia (Mojović, 2006). Projects such as Belgrade Waterfront demonstrate a clearly speculative approach to planning in the built environment, giving little attention to the actual needs of society and the requirement to build resilience within communities facing myriad social and economic challenges in the modern state (Grubbauer and Čamprag, 2019). Hirt and Petrović (2011) note that globalism and the collapse of the old system are to blame for the spread of gated housing in Belgrade. In 1991, 53 percent of housing stock in Belgrade was socially-owned apartments (Petrović, 2001). That figure is estimated at less than 1 percent today (Vilenica, 2019). As witnessed by the researcher while living in *Blok 19A*, individual rights have triumphed over those of the collective, with individual apartments even appropriating communal spaces and corridors.

Indeed, movements for spatial rights in Serbia appear more resilient than their political counterparts. A set of unpopular planning decisions have seen the rise of spatial activism from groups such as *'Ne da(vi)mo Beograd'* (NDB, Do not strangle Belgrade) and *Ministarstvo Prostora* (MP, Ministry of Space). These parallel political movements offer hope for Belgrade as development can be impeded by a lack of strategy and perceived kleptocratic governance (Jakovljević, 2015). Worldwide, struggles for housing are joining forces with others who have the same structural problems (Rolnik, 2019). In Belgrade, more coordinated approaches among civil society organisations may improve planning standards where a significant proportion of the city is without basic infrastructure (Zeković et al., 2015). A movement to challenge a decision to connect a *gondola* (cable-car line) across the river Sava from the

UNESCO-listed Kalemegdan site to a shopping centre opposite at Ušće may yet be successful (Jovanović, 2019). Architects have established non-governmental organisations in pursuit of a robust planning system, holding actions to raise awareness and opposition to neoliberal development practices. The Ministry of Space (MP) began 'right to the city' actions in 2010/11 and has used occupation as a means to negotiate with local government around activating vacant spaces. They are part of a network of similar initiatives in the Western Balkans engaged in bottom-up initiatives to create alternative spaces and challenge dubitable privatisation in the wake of economic transition and fragmentation. These organisations employ shared methodologies, management and governance to offer ownership to citizens (Dolenec et al., 2013). The Ministry of Space works to draw attention to the hypocrisy of speculative investment at the wholly unsuitable Belgrade Waterfront site, when communities they work with on the city's periphery are faced with basic struggles for water (Eror, 2017). Part of their immediate network is a group called Blok 22, which works with communities in New Belgrade on joint decision making within the blocks. At a 2019 round-table event in Belgrade, set around Rethinking Housing as an Urban Commons, a number of these civic champions joined established thinkers (such as Mina Petrović of the University of Philosophy) to discuss what alternative tactics could mean for housing provision in the city today.

Insurgent citizenship and the struggle for housing rights, as studied by Holston (2008), offer many socially innovative cases from Latin America (as detailed in the preceding section). These include occupations of underused public assets by housing movements, monitoring of spatial injustices and speculative planning. The work of MP and NDB include similar manifestations (*udružene akcije*) and seminars to discuss concepts such as the *Right to the City*, and how they relate to Belgrade (Radovanović, 2017). They are part of both regional and global networks that help citizens exercise their spatial rights, and promote more sustainable pathways to urban development. Rapid privatisation in Serbia since the economic transition has seen Belgrade take a neoliberal approach to urban development, ignoring the needs of many off-grid settlements in the periphery (Hirt and Petrović, 2011). The informal city is still attracting migrants from ailing post-industrial towns and cities across Serbia, in addition to hosting many Serbian refugees displaced from neighbouring territories in preceding decades (Johnson, 2018). As mentioned above in response to the survey questionnaire, since the socialist period, much of the residential development on the periphery of the city is off the grid, in areas such as Karaburma and Borča. Informal settlements constituted 40% of the total

residential area of the city in 2015, with many areas unconnected to public services and utilities (Zeković et al. 2015). Faced with an ever-enduring housing crisis, the local government needs to reinvest in social housing, which has been reduced to less than 0.9% of residential stock since privatisation (Vilenica, 2019; Vuksanović-Macura, 2019). This, however, is within a context where private homeownership was incentivised and accelerated considerably during inflation that occurred when the Yugoslav system collapsed (Petrović, 2001). Evictions in Belgrade are common and have a disproportionate effect on socially marginalised groups (Vilenica, 2019). The lamentable statistics that underline the decrease in Belgrade's socialised housing stock since socialism has spurned on several non-governmental organisations such as 'Ko Gradi Grad' (Who Builds a City) and 'Za krov nad Glavom' (For a Roof Overhead) to take action (Milenov, 2019). This being said, answers to the researcher's questionnaire in relation to contemporary activism suggest that there are only a few minor success stories in opposing neoliberal approaches to development in Serbia. This is put down to *"a lack of political will to develop necessary instruments and support"* for sustainable policies (SQ3).

It appears that in the period under the Yugoslav system, local and federal governments could not deliver sustainable solutions to the housing question. The economic system of market socialism, underpinned by policies of self-management, allowed for a fairer (while never remotely approaching equal) distribution of resources (Uvalić, 2018). Portions of the society were excluded and financing insufficient, leading to lots of informal and substandard construction (Archer, 2018; Johnson, 2018). Yet planning was coordinated to a much greater level and devolved to self-managed enterprises that made assessments, in theory, by need (Archer, 2018; Johnson, 2018). While there was little actual participation in housing decisions at the stakeholder level, the degree of collaboration on decision making at the level of enterprises and institutions made for economies of scale through technical efficiency and knowledge transfer (Unkovski-Korica, 2014). Public consortia did have legal representation with regard to planning matters, and the commodification of real-estate was prohibited (Uvalić, 2018). Mandatory contributions were collected, yet rents were kept low and regulated (Archer, 2018; Johnson, 2018). The collision of the Yugoslav housing system with the reforms required of free-market capitalism deprived not only property of its social use, but the same could be said for many social protections of the state (Uvalić, 2018). In an essay contained within *Towards a Concrete Utopia*, Andrew Herscher remarks that "*to register the difference between the failure of a political project and the destruction of a political project is to solicit*

attention to both the narration of that project's past as assays of its potential future" (Herscher, 2018:114). What could be among the most valuable tasks for academics would be to imagine potential futures of the Yugoslav model of housing provision should it have had an opportunity to better evolve and respond to unforeseen conditions.

5.2.7. Summary of the case study on Belgrade

In the concluding chapter of *In Defense of Housing,* Madden and Marcuse (2016) highlight promising strategies for enacting rights to housing, many of which echo the values enshrined in the Yugoslav aspiration of housing for all: the need to de-commodify and de-finance the housing system, and to grow and nurture public housing stock the need to privilege inhabitants with common high standards, and experiment with typologies and alternatives in the process (Madden and Marcuse, 2016). This preliminary research would suggest that with housing crises debilitating cities across the world, the Yugolsav model deserves close re-examination. The architectural production, processes and performance of the former Yugoslavia, as can be seen in the city of New Belgrade, are therefore examined in a number of ways in order to identify lessons for modern practitioners.

Housing requires an investment in people, in the future, in believing that alternatives are possible. In *'Belgrade - Formal/Informal - A Study on Urban Transformation'*, Milica Topalović explains self-management as a form of state ownership transformed into social ownership (Topalović, 2012). If housing was considered to transmit a social value (in the way that Mazzucato (2018) writes about social value) as opposed to being treated as a mere commodity, the nature of social ownership could be radically interpreted according to this line of thought. Given the global nature of our current housing crisis, Belgrade could do worse than look again at some of the ideas of the past, and at how they could be recombined, reinterpreted or reimagined to encourage bottom-up self-build supported by models for collective self-governance.

5.3 *Regeneration Stalled: Architectures for Resistance - The case of Lille, Hauts-de-France*

Neoliberal approaches to urban development have increased spatial inequalities and segregation within cities. The final part of the chapter on architecture and social innovation in the built environment, this section looks at recent conflicts that have arisen over the redevelopment of a brownfield site in the city of Lille, Hauts-de-France. Focusing on the

mismatch between lofty plans for a green industrial revolution in the region, and the insurgent activism of those opposed to the proposal at the grassroots, a case study examines the perceived lack of environmental considerations given to the redevelopment proposal.

Examining the Lille case within a wider context of post-politicisation in planning, this section considers whether new narratives in planning are required to offset negative effects of speculative design, and help communities approach compromise with their local governments. The research shows that closed governance is hampering social innovation and restricting an honest discussion around the site. Findings are based on action research conducted with key stakeholders close to the project, and informed by a deep review of literature around the proposal. This is the final case study in the wider investigaiton looking at how networked social innovation in the built environment can allow for more democratic participation in decision-making.

5.3.1 Background

Although an academic discourse around the negative impact of neoliberal planning policies on the built environment has been building in the last two decades, mounting evidence suggests that we are now at a crisis point (Swyngdeouw, 2017; Swyngdeouw, 2018; Kaethler et al., 2017). Architecture and planning professionals have been complicit in a process where ambiguous actors - and hybrid public-private organisations - have usurped decision-making powers for spatial development from local governments (Kaethler et al., 2017). This has led to a situation where the desires of speculative developers pursuing profit through rent extraction are favoured above the citizens' need for healthy equitable cities. A context in which *"designers run the errands of power"*, and where *"the participatory design process is used to create coercion and sugar-coat autocratic process with a shimmer of 'collaboration'"* (Kaethler et al., 2017). As part of the wider study looking at the process of social innovation in the built environment, this section questions whether avenues still exist for networks at the grass-root to influence more inclusive planning policies, or whether bottom-up approaches simply enable the opaque strategies of ambiguous actors (Horgan and Dimitrijević, 2018; 2019). Focusing on the case of Lille, this account considers how a post-politicisation can shut down an open discourse around urban development and political exclusion, and grow the gap between urban governance and civil society (Swyngdeouw et al., 2002).

The post-industrial conurbation of Lille, in northern France, has been the site of a lengthy regeneration process over recent decades, culminating in the redevelopment of a former rail freight station south of the city centre at Saint-Sauveur (Phillips, 2016). This is the latest phase in the Euralille strategy - a mega-project for large-scale urban renewal - that is aimed to help deliver on the mayor's pledge for 6,000 housing units per year (Phillips, 2016). This case considers the role of *networks* (locations of action) and *frameworks* (policy) in the building of resilient architecture for communities, testing a hypothesis around whether stakeholder collaboration in these phases has a real impact on decision-making. Coming at the end of doctoral study, the Lille case shines light on a conflict that has arisen between community associations and the metropolitan government, leading to the stalling of the project at Saint-Sauveur (Durand, 2018). It presents an example of where an insurgent citizen-led opposition to development - and the removal of precious green areas in the city centre - has managed to scupper proposals for the site and lock stakeholders into an impossible stalemate about development strategy. A perceived mismatch between lofty regional environmental strategies and the demands of the local population is considered within the wider context of post-politics in urban studies.

A growing discontent among disenfranchised populations across the world has led to an increase in 'urban rage', and communities seeking to exercise their 'rights to the city' (Swyngdeouw, 2018; Dikeç, 2017). Detailing the rise of 'insurgent citizenship' in cities, Swyngdeouw (2018) refers to instances "*in which the political - understood as a space of contestation and agonistic engagement - is increasingly colonised by politics*" (Swyngdeouw, 2018:n.p.). Public services and spaces are no longer subject to public choice, as *"techno-managerial"* (neoliberal) governance is facilitated by *"concentualsing procedures that operate within an unquestioned framework of representative democracy, free market economics, and cosmopolitan liberalism"* (Swyngdeouw, 2018:n.p). This autocratic governance is visible in the formation of public-private partnerships, that operate at a distance from the population, who are unable to influence decision-making related to their neighbourhoods (Swyngdeouw, 2018).

The groups and associations in Lille opposed to the plans for Saint-Sauveur have exercised their rights by demonstrating how plans contravene environmental strategies for the city and region, allowing the contested site to give potency to their political positions, and allowing them to reconfigure *"uneven socio-ecological relations"* (Swyngdeouw, 2018:n.p.). As is evident from the account given below, the Lille case demonstrates a deficit in accountability

and any formal process of participation (Swyngdeouw et al., 2002). This would seem to follow a pattern - in Lille - first identified by Swyngdeouw et al. (2002) in a study on neoliberal urbanisation and large-scale urban development projects (Swyngdeouw et al., 2002). It tells a story of how ambiguous development corporations are masked by the veil of politics in order to maintain legitimacy in the face of political opposition, *"recasting particular social groups as problematic, excluded, marginalized and nonintegrated"* (Swyngdeouw et al., 2002). The exclusion of environmental groups from discussion on the future development, confirms the emergence of a *"dual society in terms of a coalition of public/private interests on the one hand and a growing group of disenfranchised on the other"* (Swyngdeouw et al., 2002).

Research is informed by a comprehensive literature review that sets out the development context in Lille - in terms of both ecological and political ambitions - and action research in the community. Over the following paragraphs, the case study would seem to verify how *"bottom-up, and network planning approaches have gone hand in hand with increasing inequality in access to decision-making"* (Swyngdeouw et al., 2002:574).

5.3.2 Historical context

Across the developed world, cities that were once the engines of the industrial revolution have seen a steep decline in their fortunes since the end of World War II, hastened by the economic crises of the late seventies and eighties (Power, 2018). Struggling with the loss of industrial jobs, many of these cities have followed regeneration strategies that seek to transform their fortunes based on the transformation of redundant public assets (Carter, 2016). This has seen city governments following neoliberal urban policies based on financialisation of public land and property (Rolnik, 2019). Rust-belt cities in North America and Europe in particular, have adopted planning regimes that seek the patronage of opaque commercial actors and private interests (Carter, 2016). The post-war universal social contract, distributing social rewards to workers through housing and the welfare state, has been eradicated in favour of imbalanced place-based policy that often hinges on economic drivers for growth (Rolnik, 2009; Swyngdeouw 2017, 2018).

The city of Lille in northern France was one of the largest textile regions in the world, second only to Manchester and the Lancashire conurbation (Provan, 2016). Famous for its cloth since the twelfth century, the city saw a four-fold increase in its population by the close of the nineteenth (Provan, 2016). The closure of monolithic industries (textile, mining and steel

production accelerated during the seventies) led to a decay in urban infrastructure - 16,000 brownfield sites across 4,000 hectares of land (Vidalenc, 2019). Globalisation meant the region shed 105,000 textile jobs, and close to the same number in mining, with total industrial jobs decreasing by 60% (Vidalenc, 2019). The decline of these industries has put Lille in a long-term economic crisis since 1967, with almost one third of the population depending on social benefits - the highest level of any metropolitan area in France (Provan, 2016). Waste heaps, pits, railroads and coal mines that litter the landscape are complex reminders of the region's past, the most urbanised in the country behind Ile-de-France, and home to a metropolitan population of 1.2 million people in 2019 (Vidalenc, 2019). The metropolitan area is made up of 85 communes, including the adjacent cities of Roubaix, Tourcoing and the new town of Villeneuve-d'Ascq (Provan, 2016). The city itself hosts a population of 228,000 residents and is the biggest in the Eurometropole, a wider trans-border region including towns in nearby Belgium (Provan, 2016). Zooming out, Lille sits within the former Nord-Pas-de-Calais region - now called Hauts-de-France - a territory with a population in excess of 6 million people (Vidalenc, 2019).

Lille's regeneration has followed a similar path to other post-industrial cities that have managed to reinvent themselves, when faced with decline. Its journey is compared alongside six others in a recent paper looking at regional politics and industrial economy, in light of the social, economic and environmental challenges facing cities (Power, 2018). Power's (2018) comparative paper presents a recognisable picture of seven cities that face similar issues related to post-industrial decline: the loss of thriving urban centres, sprawl and transport congestion (Power, 2018). It found that cities which experienced rapid growth in the industrial era - based on the extraction of natural resources - are left with long-lasting negative socio-economic and environmental consequences (Power, 2018). In the seventies, the impact of industrial decline was made worse by outsourcing and the automation of supply chains (Vidalenc, 2019). This context reminds us of the metabolic rift (shift) that Marx wrote about, predicting the fallout from the capitalist pursuit of endless growth (Moore, 2011).

Power (2018) identified measurable indicators of growth in Lille and the other cities, based on strategies to reduce their dependence on industry and diversify their economies (Power, 2018). The findings on Lille build on a 2016 study produced by LSE Communities, and draw attention to nuanced urban governance and collaboration between the city and its (peri)urban environs (Provan, 2016). Following policy guidance on development set out by the

European Commission, the regeneration of Lille has been facilitated by a more open partnership-based approach that involves citizens, as well as local universities and local government agencies (Power, 2018). The decision to locate Lille as a stop on the Eurostar line linking London to Paris and the Benelux allowed the city to reimagine its position in a global sense, followed by a failed bid to host the Olympic Games and successful campaign for European Capital of Culture in 2004 (Provan, 2016). Lille's strategy centred on the rejuvenation of the city centre, reusing historic buildings and infilling large parts of the city that had been dominated by industrial railway infrastructure (Power, 2018). Marketed as *Euralille*, it became an ambitions mega-project that sought to create new neighbourhoods around new linkages between the city's main train stations. Launched in 2010, the latest phase, *Euralille3000,* contains plans for substantial environmental improvements in this area: unlocking dead spaces and making connections across repurposed brownfield sites (Provan, 2016). At the regional level, Hauts-de-France has set out an even more ambitious strategy for green industrial growth and job creation (Vidalenc, 2019). At each scale, proposals for Lille - and the region - centre on ecological approaches to recovery. However, what can be viewed as a neoliberal model for urban development has been met with opposition (Durand, 2019). This investigation considers the model for development in Lille, with a view to better understanding what has produced conflicts in the urban context. Focusing on the redevelopment of sites at the Gare Saint-Sauveur, the case examines the contradictions between planning policy and practice, and the failures of stakeholder participation in resolving these.

5.3.3 Ecological approaches to building resilience in Hauts-de-France

Visionary plans for a self-sufficient and thriving Hauts-de-France - the region, its cities and towns - have emerged in recent years, combining a set of ecological approaches at different scales (Vidalenc, 2019; Power, 2018; Provan, 2016). At the regional level, the Third Industrial Revolution strategy *rev3*, has attracted international attention, not least given the area's prominence during the first industrial era. Industry in the area still represents 41% of overall energy demand, through the move towards an industrial services economy (Vidalenc, 2019). Based on the ideas of Jeremy Rifkin (Rifkin, 2011), *rev3* is an industrial roadmap that sets a goal for energy autonomy based on renewables, shared resources and participatory politics (rev3; Vidalenc, 2019). For prize-winning French urbanist Michel Desvigne, Rifkin's vision represents a shift for the region, *"from a black archipelago to a green one"* (Vidalenc, 2019:49). Rifkin,

who attended the 2012 World Forum in Lille, was invited to produce a regional masterplan based around "collective management" of resources, and "shared power" in decision-making (Vidalenc, 2019:55). The plan is based on a logic of decentralisation for the area, with each subregion building specific expertise in wind, solar, marine, biomass or geothermal production (Vidalenc, 2019). Five pillars – renewable energies; energy-producing buildings; energy storage capacities; an energy internet; and reinventing the mobility - have become working groups, alongside cross-cutting themes of circular economy, functional economy and energy efficiency (Vidalenc, 2019).

Rifkin argues that capitalist economic models are exhausting the limits of the planet, and promotes a more distributed model, enabled by a reimagining of the commons (Kleiner and Powell, 2017; Rifkin, 2014). His book *Zero Marginal Cost*, contemplates a society where the cost of production decreases towards zero, meaning that managing abundance and not scarcity will be of concern in the near future (Rifkin, 2011). His ideas, which have been developed into smart strategies for China and the European Union, envisage new sources of communication, mobility and an energy internet (Kleiner and Powell, 2017; Rifkin, 2011). Energy cooperatives, free services, and resource sharing enabled by innovative technology platforms will allow for more equitable communities according to Rifkin, in a future that is open, transparent and laterally scaled (Kleiner and Powell, 2017; Rifkin, 2011). For Hauts-de-France, this represents an opportunity to create an economically robust region, informed by resilience principles (Kleiner and Powell, 2017; Rifkin, 2011). The model for hyper-connectivity forged by distributed infrastructure is one that suits the needs of the region implicitly, in response to social, economic and environmental shocks. The *rev3* strategy has led to interdisciplinary collaboration in areas such as digital transformation as well as climate change, and building social entrepreneurship in the region (Kleiner and Powell, 2017). Core values in the plan point to a desire for greater citizen-involvement in planning processes, uncommon in such as centralised country as France (Vidalenc, 2019). However, a recent progress report on the green transition in the region, questions both the strategy itself, and in particular the ambiguity around citizen participation in planning aspects (Vidalenc, 2019).

In that report on the Third Industrial Revolution in Hauts-de-France, Vidalenc (2019) notes that while the strategy is one of the most ambitious in France, ambiguity abounds with respect to building a horizontal stakeholder ecosystem. This, despite the fact that when Rifkin was brought into the project, there were a number of assembled stakeholders in the energy

field, and that the region has been led by an ecologist leader as far back as 1992 (Vidalenc, 2019). Vidalenc (2019) found that in Greater Lille, each of the 25 local authorities individually considers how it should approach the energy transition in its own territory, with big differences in their approach. Concern among local stakeholders was that some of the most intractable ecological challenges were being ignored by the strategy, including the behavioural shift required to move toward more energy-sober living (Vidalenc, 2019). In terms of impact, Vidalenc (2019) found that economic benefits and job growth were lower for Lille when compared to other post-industrial cities following a similar path. The report emphasises that the *rev3* concept helps maintain the belief that growth is driven by industry, obscuring the fact that innovation is greater in information services (Vidalenc, 2019). Vidalenc (2019) refers to the appraisal of the techno-centric plan by experts critical of vertical, top-down decision-making processes that are contrary to the horizontality central to Rifkin's plan. For Vidalenc (2019), there is a chasm between what is said by politicians, and the actual-occurring process of participation.

The report suggests that residents are keen to participate in a disruptive and impactful energy transition, and understand that political change is required to enable a collective reimagining of the commons (Vidalenc, 2019). It would appear however, that despite lofty ambitions for 100% renewable energy by 2050, the prevailing neoliberal economic model is incompatible with such a vision. Vidalenc (2019:66) refers to an interpretation of this as "extractivist diseases" that conceal *"other ways of thinking about the future or the weak commitment of local populations in the decision-making process"* (Duc, 2017). A lack of genuine participation can lead to post-politicisation and apathy on the part of the community, and can help us to understanding spatial dynamics occurring at the city scale (Swyngdeouw, 2018). When we look closer at the redevelopment of the brownfield site at Gare Saint-Sauveur, these themes reappear at that level.

5.3.4 Euralille and neoliberal development projects in the city

While Hauts-de-France was among the regions worst hit by the recent financial crisis, the city of Lille weathered the storm due to changes in its economic base and a growing service economy (Provan, 2016). However, the Metropole has been home to both the richest and poorest citizens in France for over a hundred years (Provan, 2016). Persistent social disadvantage has led the city to seek out alternative approaches, understanding that

traditional frames of analysis do not adequately respond to the socio-economic realities on the ground (Provan 2016).

The city believes that restoring environments and resources, investing in people and infrastructure can create pathways for inclusive growth (Power, 2018). The repurposing of vacant buildings has produced laboratories, start-up incubators and high-tech facilities (Power, 2018). Lille has agreed a plan for a compact city to combat urban sprawl and reduce dependency on cars, and to grow density and attract more residents to its centre (Power, 2018; Provan, 2016). The city has a low tax base, taking in only 76% of the amount for similar metropolitan areas (Provan, 2016). It has strong ambitions to grow an upwardly mobile workforce, with plans to build housing at a rate of 5,000 dwellings per year (Fraisse, 2013). The impact of global recession on young people, unemployment and discontent have encouraged new approaches at the local level (Fraisse, 2013). These include socially innovative experiments in community development - in housing and social inclusion - and integrated approaches to policy-making (Fraisse, 2013). The Metropole's Housing Plan includes provisions for experimentation among its priorities, and puts an emphasis on citizen participation (Fraisse, 2013). This has led to impactful pilot projects in self-build, renovation and the advancement of a sustainable development framework for urban renewal projects (Fraisse, 2013).

A report commissioned as part of the EU-funded Wilco project (Fraisse, 2013) indicates social innovation is not lacking in political discourse in the city, evident in the social and solidarity-based plan (Fraisse, 2013). However, the same report suggests that the *"local political arena for social innovation… remains permanently weakened by attention paid primarily to a limited number of quantitative priorities"* (Fraisse, 2013:1). These priorities lie in the upgrading of poorer neighbourhoods in the south of the city, following a slow but steady process of gentrification (Fraisse, 2013). A commitment to build a revitalised denser city of mixed neighbourhoods has produced a number of innovative strategies. The Wilco report cites the example of the development of Ilot Stephensen in 2007 - following three years of inaction - as a model for an engagement-led approach to regeneration, and indeed the project would seem to inform a development pattern favoured by the city today (Fraisse, 2013). The project, aptly named *Union,* saw the construction of an eco-neighbourhood on an industrial site of 80 hectares, and pioneered an embedded approach that saw architects working in close partnership with the community (Fraisse, 2013). The *Union* project was effective in reducing a contentious atmosphere that arose out of opposition from local residents (Fraisse, 2013). The

report cites the involvement of a well-known local architect as a catalyst for innovation to overcome resistance (Fraisse, 2013). While commended for its approach to participation, this and innovative self-renovation projects emerged not from bottom-up policymaking with the community, but from an institutional demand from the metropolitan government (Fraisse, 2013). Outside actors with specific expertise were invited to help citizens overcome their opposition through a process of co-design (Fraisse, 2013). The report suggests that the sustainability of such initiatives depends on volunteered labour and user participation, reducing public expenditure (Fraisse, 2013). Not unlike the Big Society initiatives that emerged in the UK during the coalition government, this reveals a markedly neoliberal approach to urban renewal and governance.

Lille has committed to sustainable city- and house-building through its application of *Agenda 21*, which refers to a Green city centre, new water strategy and cycle tracks (Provan, 2016). The *rev3* strategy plays a key role in this directing public expenditure towards improved public transport and connections (Provan, 2016). As previously indicated, the redevelopment of areas between Lille's main train stations, *Lille Europe* and *Lille Flandres,* under the Euralille project continues apace and is now in its third phase (Heddebaut and Di Ciommo, 2018). Since Lille's inclusion on the international high-speed railway network, it is now the second busiest regional train node after Lyon in the south (Heddebaut and Di Ciommo, 2018).

The extension of the Euralille project's southern section has seen the motorway offset and a new neighbourhood of high density mixed-tenure housing emerge along its flank. Adjacent to this new community at Bois Habité, lies the redundant SNCF freight station of Saint-Sauveur, which was sold for redevelopment in 2017. The region has long been a bastion of socialist politics, beginning with the first socialist mayors in Roubaix and Lille, in 1892 and 1896 respectively (Provan, 2016). Socialist Martine Aubry has been President of the Urban Community of Lille Métropole since 2008. Governance in the Metropole is complicated by seven layers of decision-making and *"innumerable levels of debate, permissions, negotiations, financial applications and strategic fits"* (Provan, 2016:13). However, Provan (2016) indicates a general lack of progress in allowing citizens to participate in public discourse, noting lower levels of participation in presidential elections in areas south of the city (Provan, 2016). The growth of *gilet jaunes* protests in Lille, as well as the move towards more conservative politics in neighbouring cities, points towards disenfranchisement (Algan et al., 2019; Provan, 2016).

The city's population, which has an unusually high number of older citizens as well as over 100,000 students, produces diversity of opinion that can be difficult to resolve (Provan, 2016). According to a recent paper on the interchange project by Heddebaut and Di Ciommo (2018), the Lille City-Hub management has set up a number of stakeholder committees tasked with *"finding an agreed way for reducing conflicts, in order to better plan outcomes and allow communities to have an influence over the future shape of the places where they live"* (Heddebaut and Di Ciommo, 2018:1). In spite of this, a major conflict has arisen over the development of *Friche Saint-Sauveur*, which resulted in the city been prevented from continuing with the development in the interim (Durand, 2018). The project has been stalled since a 2018 judgement by the administrative court of Lille which suspended the deliberation of the Metropolis of Lille (MEL), declaring the project Saint-Sauveur to be in the public interest (Durand, 2018).

5.3.5 Findings from ethnographic research in Lille

5.3.5.1 Engagement failure fuels post-politicisation of urban development

In order to investigate the conflicts arising in the planning of redevelopment at Saint-Sauveur, ethnographic research was conducted in the city of Lille in October 2019. Following a comprehensive literature review, which included a survey of press articles and discussion concerning the project at Saint-Sauveur, the researcher conducted a series of semi-structured interviews with stakeholders in Lille. With help from contacts in the city, the researcher was able to meet with representatives from local government, associations in opposition to the development, as well as local residents - and local architects involved in realising the masterplan of architects and urban planners Gehl Architects (produced in 2013) (Gehl Architects, n.d.).

What became immediately apparent from these conversations was how political the project at Saint-Sauveur was for all parties, evident in the universal reluctance of informants to give formal consent to the interviews, most of which had to be conducted 'off-the-record'. The unwillingness of stakeholders to sign ethics release forms, or be identifiable in research findings is evidence of how contested the development is in the city. Reflecting the greyness of the low Flemish sky, a high density mixed use OMA (office for Metropolitan Architecure scheme – completed in 1994 - dominates the space between Lille Europe and Lille Flandres stations, the first phase of the Euralille redevelopment of the city. Pedestrian thoroughfares

Fig. 17. Community occupation at Friche Saint-Sauveur, Lille, France, (Horgan, 2019).

Fig. 18. Friche Saint-Sauveur with Le Bois Habité residential area in the background, Lille, France, (Horgan, 2019).

through the campus are difficult to identify, and arriving to the baroque city centre means taking internal streets through the mammoth Westfield Shopping Centre. It would be difficult to argue that a user-centred process guided the initial Euralille development, which served to reposition Lille as France's fourth economic centre. Both the architecture and psychogeography of this area possess a distinctly neoliberal feel, where commerce and the needs of business are the dominant force. Urban designers engaged through the research are quick to connect the development of Saint-Sauveur to the broader Euralille project, which has been the main mechanism for regeneration in the city since the 1990s (Provan, 2016; Heddebaut and Di Ciommo, 2018).

Stakeholders agreed that the site at Saint-Sauveur, and the area of Belvedere - known as Friche Saint-Sauveur - represented the last chance to locate a substantial park or green space in the city of Lille. While the areas that surround the city making up the Métropole Européenne de Lille (MEL) are almost 50% agricultural, the city itself is almost entirely densely built. All of those canvassed agreed that green areas are really missing in the city, outside of the Citadelle, constructed when the city was ceded by the Spanish Netherlands. The small linear park immediately in front of the Gare Saint-Sauveur was once a concrete car park itself. While this has been a welcome addition for the neighbourhood, the lack of green space - particularly between Gares Europe, Flandres and Saint-Sauveur is striking. Ironically, Lille was runner-up as the European Green Capital for 2021 losing out to Lahti, in Finland (European Green Capital, 2019). In conversation, local government sources emphasised the fact that there is an estimated 500 hectares of brownfield in the Metropole as a whole. For Mayor Martine Aubry, the lack of affordable housing in the city is a much more pressing challenge than the environmental one. She has committed to building 10,000 units over the next seven years and to increasing - badly needed - density across the sprawling low-rise settlement. According to architects involved in the development, the land at the Saint-Sauveur site is very polluted, which increases the investment required in its transformation.

5.3.5.2 A well-considered good design within a context of bad planning mistakes

For the architects working at Béal & Blanckaert, who are Gehl's local partners in the redevelopment of Saint-Sauveur, the project represented a well-considered design and a model for housing provision in France. In conversation, they explained how the need to retain green spaces was a major factor in the design, which uses *iles nordiques* - islands of mixed

tenure developments in a Nordic style - to programme private pocket parks for residents within each block. Following Danish design rules, pedestrianised corridors introduce new routes across the site, locating public services - a creche and a school - at junctions with north-south thoroughfares. A precedent exists in neighbouring Belgium for such semi-collective spaces that allow residents privacy while simultaneously introducing new public walkways. There is a logic to spreading the park across the site while allowing permeability between public and private spaces, which was well received when the project was communicated to local residents during consultation. The architects are keen to emphasise the popularity of the design among local stakeholders, but agree that in the context of the wider city, bad communication has made the project unfavourable with many cohorts in Lille. Associations keen to retain the site as a green space agree that communication has been the main failure of the regional government, in particular around the location of an Olympic swimming pool at the Belvedere corner, replacing an existing very public green space. The swimming pool, which ambitiously was designed to perform a dual function as a district heating system, has enraged large sections of Lillois, who see it as *bourgeois,* and bringing an unnecessarily large amount of traffic to the site from the greater Hauts-de-France region.

Opponents to the swimming pool are keen to point out that the city already has an Olympic pool - albeit an inflexible modernist structure requiring substantial retrofitting. They argue that that building could be repurposed and a swimming pool constructed elsewhere, reflecting a circular economy of the built environment. With only a portion of housing dedicated to social tenants, many see the project as an example of neoliberal speculative development aimed at attracting higher-income workers into the city. They contrast the opaque development process at Saint-Sauveur with more open engagement-led development in adjacent Fives and La Friche Gourmande (Pluchard, 2019). Many view this process as gentrification-by-design and compare their opposition to the #MeToo movement in France. Reminiscent of the moment, *"Paye ta friche"* (Pay your wasteland – a play on *Paye Ta Shnek)* (Piser, 2018) is a common slogan to be found in graffiti on site hoardings around Saint-Sauveur. Those in opposition to the project are loathe to forget the planning mistakes of the past, were the city demolished large swathes of historic buildings in the centre to make way for a motorway. The motorway was offset several hundred metres to the east to make way for a new speculative neighbourhood at Le Bois Habité - phase II of the *Euralille* project - which translates as the inhabited woods, laying bare the lack of greenery in the city. The repositioned

motorway amputates the possibility of a continuous green belt linking Lille to its green areas. Informants from across the spectrum – architects, activists and local government – agreed that the redevelopment of Saint Sauveur, like many of the projects associated under the *Euralille* strategy have been badly communicated.

5.3.5.3 *An aversion to dialogue limits community participation and ownership*

The political context in Lille, where the city itself has been led by a socialist mayor for more than two decades, and in its hinterland, which is under a right-leaning administration, creates a unique set of problems for the development. The Metropole holds legal competencies for planning - roads, water, transport and heating - while the city is responsible for parks, streets and cultural services. Local government sources lament the fact that median incomes in the city between €1200 to €1400 present additional challenges for public administration. The need to bring higher tax takings into the public coffers is a priority for many in government. However, the needs and desires of existing residents are often overlooked in the pursuit of a continuous growth model. The lack of green space makes residents nervous, a local government official agreed, and while a planning consultation was conducted in 2014, as per regulatory obligation, this centred on progressing the Gehl masterplan to detailed design, and was not a moment for citizens to participate in any meaningful strategic decision-making. Stakeholders were quick to point out that contrary to the ambitious Rifkin plan, there is no regional urban spatial strategy, pointing to a lack of coordination between the city and region, which might account for the lack of progress with the *rev3 strategy* referred to above. The transport changes required to support the masterplan for Saint-Sauveur are unrealistic according to many, and will actually mean higher rates of (air) pollution, contrary to Rifkin's vision. While the Gehl plans for the site are very sophisticated, communication of the proposal has been its downfall, attracting the ire of environmental groups, and inspiring their legal win. People do not ultimately feel consulted, having been presented a set of 'ready-made plans' for the site without feedback loops programmed into the engagement process. In 2015, the MEL Board approved the creation of a Concerted Development Area (ZAC) on the site of the former Saint-Sauveur freight station, relaxing ordinary planning rules and prioritising the needs of investors (Phillips, 2016). It is accepted by all parties that the absence of robust pathways to participation in the process for wider citizens, as well as environmental groups, has brought the project to its current standstill.

All of the informants interviewed during ethnographic research agreed that the project was in limbo as it was “too-political”.

What is clear from ethnographic research in Lille, is the lack of one coherent narrative that represents the voice of the community. This is perhaps because no one group can be seen to represent the community (nor the groups in opposition to development) of Saint-Sauveur. Many local residents disagree with the views of environmental opposition groups, who have constructed a monumental middle-finger on site in the direction of the civic offices, and resent the many drug addicts that gather on the wasteland to take crack and heroin as decision-making remains frozen. The failures of governance - communication and participation in particular - in this case have led to a complete breakdown in dialogue between the local government and those in opposition to the plans for (Friche) Saint-Sauveur. A member of the association P.A.R.C. Saint-Sauveur (Protection Aménagement Réappropriation Collective) explained that while it is obligatory in France for local government to speak with communities in opposition, they are not obliged to listen. While the association has organised several events to engage the public in a dialogue around proposals for the site, representatives from local government have never attended. In fact, any debate around Saint-Sauveur has been shut down in advance of local elections in France due to take place in March 2020. Those in opposition - mainly from the left - point out that neoliberal policies pursued by French socialists promise everything, but are unsustainable in practice. Repeated failures to allow for greater democratic decision-making in planning has led to deep suspicion of French Socialist politicians, and resulted in a post-political context of disenfranchisement. The splintering of the left has meant that groups under the umbrella of environmentalism are locked within their own ‘echo chambers’, unable to hear the views of others or approach a badly needed compromise with other stakeholders. Among the groups opposed to the MEL proposal, a fractured and divided movement is unable to develop a consensus on a way forward, on how to confront social and environmental challenges. For the architects, the lack of progress on what is certainly an innovative proposal is also stalled by this *“contra-pratique” (opposition)*. For them, the competing narratives within an increasingly polarised society make their job difficult, and are only expected to get worse. It remains to be seen if opposition to the project will unseat Aubry as Mayor in 2020, which would likely shelve the project indefinitely. All in all, the project reveals the importance of narratives to inform approaches to planning that are honest about the roles of speculative actors, the cost of investment in housing and public

infrastructure, and that are open enough to allow a multitude of (often critical) voices to be heard. The call for new narratives is not limited to the practice of architecture or planning, but is echoed across academia - across social, economic and environmental areas (Sennett, 2012; Monbiot, 2017a; Mazzucato, 2018).

5.3.6 Summary of the case study in Lille

An examination of the Gehl masterplan alongside conversations with local architects reveals an intention to increase urban density in Lille, in line with ambitions for a more environmentally responsible use of space. Many architects would agree that the masterplan is an appropriate response to the need for housing, which can provide for a variety of tenureship - social and affordable housing alongside private development. While a high-level appraisal of the scheme justifies many of the decisions taken with regard to the development of green and brownfield sites, the Lille case reveals a *"proliferation of multi-place identities - truncated political rights, whereby some people are more equal than others in the exercise of … powers that are still primarily territorial*" (Swyngedouw, 2018:n.p.). Swyngedouw has written extensively about post-politicisation in urban studies, and about neoliberal development in Lille since 2002 (Swyngedouw et al., 2002; Swyngedouw, 2012; 2017; 2018). Swyngedouw (2017) reminds us - following Ranciere (1999) - that spatial transformation, is *"precisely about bringing into being, spatialising, what is already promised by the very principle upon which the political is constituted: equalitarian emancipation"* (Swyngdeouw, 2017:53). He reminds us of the distinctly political nature of urban development, and how without a more equitable model for governance, inclusive spatial policies are little more than paper dreams.

What the Lille case reveals is how highly-political and contested urban development can exclude the participation of many communities, and how an information vacuum can lead to a polarisation among stakeholders, which ultimately closes down opportunities for open dialogue. In his writing on the subject, Swyngedouw (2017) quotes Lefebvre (1991) who noted that, *"no sooner has space assumed a political character than its depoliticisation appears on the agenda. Space thus exacerbates the conflict inherent in the political arena and in the state… It lends great impetus to the introduction of the anti political into the political and promotes a political critique"* (Lefebvre, 1991: 416; Swyngdeouw, 2017:50). Mindful of the politics involved in spatial transformation, we must allow new voices to come through that bring accepted norms in planning and architecture into question, and that allow the built environment

professions to work on behalf of the communities they are there to serve, building resilience in the face of clear and present need (Horgan and Dimitrjevic, 2018).

5.4 Chapter Summary

What unites the case studies of the architecture phase of research is the emphasis on public housing as a most significant social innovation that allows communities to accrue social capital and build resilience. Table 4 below, provides key facts from case studies on social innovation architectures. Across all of the cases, the availability of housing - as part of a holistic social infrastructure – is critical for communities to become self-sufficient and encourage ownership over wider spatial decision-making. Public housing is a direct response to the need of communities for dignified shelter close to their livelihoods, making best use of shared assets and environmental resources. Madden and Marcuse (2016) bring together the views of many authors in scholarship who argue for societal housing as critical for balanced and sustainable development, as a counterpoint to neoliberal approaches to planning. They propose the democratisation of housing management, akin to a system of self-management and the need to open up housing policy to wide sets of actors and knowledge. They reiterate the – perhaps now utopian – ideal of housing as a home and not real estate, and call for new arenas where the housing question can be reopened.

Communities in the cases above all pursue social innovation to address a social, economic or environmental need – in all instances linked to a housing crisis. Socially innovative architectures are produced through community self-management, and forms of rights-based opposition. Assemblies and distributed decision-making are a feature in the cases of Belgrade and São Paulo, yet are excluded in the case of Lille. The emergence of socially innovative architectures is enabled by government support in Belgrade, through insurgent opposition in São Paulo, while constrained in Lille. The São Paulo research demonstrates that the tactics of open engagement with the wider public and institutions, alongside close networking with complimentary movements and key organisations, as well as innovative approaches to interpreting law and legislation are key to ensuring the sustainability and resilience of low-income communities in the centre of São Paulo. These occupations are part of a set of emerging typologies in architecture that form the basis of a growing scholarship on collaborative housing - experimental co-housing, residents' cooperatives, self-building initiatives, community land trusts and community asset transfer (Lang et al., 2018). Deeper and

more forensic investigation in these contexts is needed to help us understand these social innovations in both policy and spatial terms (Lang et al., 2018). This includes more studies that map the network dynamics of housing movements (and indeed occupations themselves) to understand their potential to influence policy development frameworks and how these can result in innovative and resilient spatial prototypes.

The themes of ownership, participation and governance – identified in earlier case studies, Moscow in particular – offer a starting point for examining these dynamics further. The São Paulo case suggests holistic approaches to planning both community and built infrastructure can offer a more dignified quality of life to citizens facing the combined challenges that are present in cities worldwide. The Belgrade case represents a social innovation system (architecture) that actually helped build measurable resilience for communities in the past. It demonstrates the learning that can be applied from the Yugoslav example in planning, policy and placemaking, that can help us approach the housing challenges of late capitalism. Madden and Marcuse (2016:12) see housing as the single most important commodity for "organising citizenship, work, identities, solidarities and politics". For Stojiljković and Ignjatović (2019:855), architecture in Yugoslavia was just that, transformed into "an agency of socialist teleology", quoting a speech by Josip Broz Tito himself, which states that the city "should reflect our notions about life and man" (Broz Tito, 1978). Tito (1978) predicted that "generations to come will look at the cities we have built and wonder about the ideas we once had". Unfortunately for him, and for the workers of Yugoslavia, he was not to foresee the disappearance of these ideas in such a brutal disintegration of his vision. The ideology of Yugoslav socialism, which was forever concerned with harmony between the individual and the collective, is once again a source for contemplating solutions for urban settlements.

As can be seen in approaches to development in Lille, while the "more collaborative and stakeholder based", the result is an "often highly exclusive scheme in which partnerships between and networks of a variety of elites play a key role" (Swyngedouw et al., 2002:573). Swyngedouw et al. (2002:574) warn that while, "the trend towards a more flexible and network-oriented approach is often perceived as a validation of 'bottom-up'", these networks can be dominated by professionals and speculative actors at the expense of less powerful social groups. In the case of Lille, a failure to communicate the benefits of the Gehl proposal has led to suspicion around the development, precipitating the eventual impasse that the city is now

presented with. This case –alongside others - demonstrates the need for more coherent and positive narratives about community engagement, that would help build openness, honesty and consensus around development in the built environment. This would echo calls across social, economic and environmental disciplines for new narratives that challenge capitalist - or neoliberal - approaches to growth in general (Sennett, 2012; Monbiot, 2017a; Mazzucato, 2018).

It can be concluded from the above that the politics of space, and decision-making, loom heavily over the planning process – and present a barrier to social innovation in the built environment. When viewed together these cases reveal the intersections of political systems and space, and demonstrate an immediate need for new interpretations in the discourse around democratic decision-making in planning. The role of the architect in facilitating social innovation – or in sanctioning neoliberal speculative development - comes to the fore here. In order to support social innovation, and address enduring spatial equality, architects must become vocal critics of inequality and work hard to advocate for communities. This involves translating narratives around spatial inequality into actionable built environment policy, and becoming active stakeholders in the co-production and co-delivery of solutions. Activism that confronts power and resource imbalances can seem to be more impactful in generating infrastructure for community resilience. This is most evident in the São Paulo housing occupations, and is perhaps required in greater quantities of the communities in Lille, Chicago and across the other cases. In order to achieve genuine social innovation in the built environment, structures of governance, ownership and the values of participation should be reimagined - in terms of their contribution to shared positive outcomes for communities. This thesis, which provides a high-level understanding of the phases of social innovation, indicates that in order to achieve same, an open engagement with diverse stakeholders in necessary, that invites criticism where appropriate. Understanding that sustainability is an iterative process, will allow communities to building the capacities over time that will render them more resilient - in response to mounting social, environmental and ecological shocks.

Matrix of research findings, showing key facts from *architecture* case studies:

	ARCHITECTURE		
1. Category	Social	Economic	Environmental
2. Location	Belgrade, Serbia	São Paulo, Brazil	Lille, France
3. Problem - Needs addressed	Sustainable population growth, Housing crisis, Statecraft	Economic life, Speculative development, Gentrification, Regeneration, Housing crisis	Lack of green spaces, Speculative development, Gentrification, Regeneration, Housing crisis
4. Brief description of social innovation action	Commons, Citizen Assembly, Legal Innovation, Rights-based	Occupation, Network building, Protest, Cultural programme, Rights-based	Occupation, Protest, Network building, Cultural programme
5. Stakeholders involved	SFR Yugoslavia, Communist Party, Belgrade City Government, Academia, Architects, Communes, Citizens	MSTC, Occupations, Residents, Prefeitura de Sao Paulo, Stakeholder eco-system, Architects, Citizens	MEL, City of Lille, Ville Rénouvellée, Architects, Local Residents, Ecological Associations, Citizens
6. Engagement methods	Mixed	Bottom-up	Top-down
7. Barriers encountered	Politics, Participation, Legacy	Politics, Ownership, Governance, Participation	Politics, Ownership, Governance, Participation
8. Methods for overcoming the barriers	Self-management	Self-management, Activism	Activism, Visibility
9. Support from the governance system and its effect	Significant - Positive	Minimal – Neutral	Significant – Negative
10. Initial and/or long-term solutions/outcomes of social innovation actions.	Ultimately failed	Provision of social housing by government, Popular support, Resilience*	None – project stalled

Table 4. Key facts from case studies on social innovation architectures

Chapter 6: Discussion

6.0. Chapter Overview

This chapter explains how research enquiry was refined to achieve an in-depth understanding of each case study, and how research methodology was adapted to their specific contexts. Table 5 (below) provides a matrix of key findings from all case studies, and is supported by a diagrammatic mapping of overall research findings, Diagram E. The discussion then focuses on the knowledge development process that aimed to addresses the research objectives of understanding networks, frameworks and architectures. The aspects that support their development are subsequently highlighted as the key research findings. Finally, the role of the architect in supporting and engaging in social innovation is discussed. Diagram E (below) provides a mapping of key research findings over phases, beginning with knowledge development to understand social innovation networks, frameworks and architectures. Key research findings related to social innovation actions are further analysed to bring out core themes emerging from the processes of network building; planning and programming; and the prototyping of innovative solutions. The relationship of governance, ownership and participation in the planning process to the development of community resilience, visible across all case studies is then discussed, alongside the barriers to, and the role of the architect in, producing social innovation in the built environment.

6.1. Evolution of research questions and methodology

As the research investigation was planned over three distinct stages, at each stage research questions evolved based on feedback from the previous phase. Research questions – and data collected – during the *network* phase informed the nature of questioning in the *framework* phase, similarly and subsequently in the *architecture* phase of research. While planning action research, interactive mapping exercises through workshops were envisaged, but this was abandoned in favour of a more direct format of semi-structured interviews. Following an iterative study design process, interview questions were refined as themes emerged connecting phases in a feedback loop. The action research carried out at each successive location – including format and interview questions – benefited from the researcher's experience with the previous case studies. For example, during the first phase of study –

Mapping key research findings (and knowledge development) over phases:

Knowledge Development: Understanding networks, frameworks and architectures

A network is formed by like-minded stakeholders, in response to a specific social need. These networks then collaborate on policy formation and the development of a framework - within which social innovation actions and strategic processes can be planned and coordinated. The results of such plans can be platforms, projects, services, policies or actual buildings – all constituents within a broader architecture for (building) resilience.

Network phase
- network dynamics - role of the architect
- architect as activist - critic of spatial inequality
- political systems – can limit social innovation

Framework phase
- open policymaking - genuine or tokenistic?
- democratic approaches - inclusive strategies
- Governance, ownership and participation.

Architecture phase
- need to build outside of traditional structures
- insurgent activism - oppositional approaches
- community planning - and social design

Key research findings: Social Innovation Actions

- specific activities include network building (community, entrepreneurial and capacity building), planning and programming (co-design and engagement around policy) and prototyping solutions (design and development of architectures).

Network Building
- Locality and embeddedness - from the grassroots, and included architects
- Values and approach - top down / bottom up
- Outcomes - building a consensus

Planning and programming
- Overarching mandate - sourced by engagement
- Community involvement - in decision-making
- Outcomes - linked (or even dependent) on political buy-in, and systems of governance.

Prototyping solutions
- Governance - negative effect on innovation
- Legal and political powers - rights-based
- Outcomes - ultimately tokenistic if unable to influence real decision-making

Social innovation actions that happen contrary to the 'source of power' may have more success in bringing about community resilience.

Core themes: Governance, Ownership and Participation.

Key research findings are based on these themes - Governance and underlying political systems; Ownership and resources; Participation and insurgent activism.

A line of inquiry that grew out of the Moscow case study guided subsequent doctoral investigation, and forms the basis of discussion and analysis of findings.

Governance	Ownership	Participation
The underlying political system, its values and how the rights of communities are upheld impact social innovation in the built environment.	Important in terms of ability to shape decision-making in the planning area, ability to reimagine underperforming social assets.	Implications for the capacity for resilience, and legacy of social innovation. Networks allow risk to be shared alongside tacit knowledge, skills and expertise.

Barriers to Social Innovation and methods for overcoming them
- Governance – short-sighted politics scupper transformative social innovation at all scales.
- Community involvement - themselves better able to bring about a sustainable resilience.
- New narratives - challenge the perception that the capitalist mode of production is the only way to organise our politics, space and society.

Politics of Space
- lack of government support for social innovation
- neoliberal model commoditises built environment assets

The role of architect
- Architect as community advocate against behaviours that favour developers.
- Architects as activist.

Diagram E: Mapping Research Findings

looking at the shape and development of networks - interviews around network formation in Recife helped to shape the line of enquiry in Christchurch.

As indicated in the research methodology, the practice of using case studies in architectural research is widespread (Lucas, 2016). By taking an ethnographic approach however, new voices can be heard that illuminate much more than the familiar and accepted aspects of a given spatial scenario. While ethnographic research in anthropology and other social sciences often means taking a deep longitudinal study to gather data, the ethnographic approach taken in this case prioritises one-on-one interviews over lengthy surveillance in the field. This has allowed the researcher to take 'deep dives' into each research context, moving beyond superficial coverage without becoming too embedded in political circumstances. The researcher was able to position themselves as an architect-activist - in solidarity with spatial inequality - yet without becoming absolutely absorbed within the given struggle for spatial rights. While the researcher had initially intended to use many more 'design thinking' devices to facilitate conversations - workshops and mapping exercises - it became apparent in planning research that one-on-one interviews and traditional ethnography of near observation, proved better in collecting qualitative data from informants. Close engagement - shadowing, and participation in group meetings, symposia and social activities - helped the researcher initiate more durable relationships with those interviewed. For periods during doctoral studies, the researcher has been embedded within a number of communities, often for weeks at a time as in the case of the Moscow and Belgrade research. In São Paulo and Chicago the researcher lived at the home of the subject(s), following them in their duties throughout their day. The researcher was able to attend meetings of network protagonists – such as the leaders of housing occupations – to get an understanding of due process and decision-making within the network. In Belgrade, living within the blocks for several months, permitted slower relationship-building and serendipitous conversations with residents. Similarly in Lille, a connection with a local resident helped the researcher to observe the site in question at different times of the day, and meet with a variety of stakeholders.

This type of anthropological field research is rare - but growing - in architecture and urban studies (Kellet, 2011). Kellett (2011) writes about the ethnographic experience of place, and the *"idea of the field as socially constructed through the act of research"* (Kellet, 2011:341).

Matrix of research findings, showing key facts from case studies over phases of research:

	NETWORK			FRAMEWORK			ARCHITECTURE		
1. Category	Social	Economic	Environmental	Social	Economic	Environmental	Social	Economic	Environmental
2. Location	Dublin Docklands, Ireland	Recife, Brazil	Christchurch, New Zealand	Moscow, Russia	Chicago, United States	Gaelic Kingdoms, Ireland*	Belgrade, Serbia	São Paulo, Brazil	Lille, France
3. Problem - Needs addressed	Speculative development, Gentrification, Regeneration, Housing crisis, Social isolation	Brain drain, Regeneration	Earthquake, Regeneration	Regeneration, Building deterioration, Displacement	Energy poverty, Speculative development, Gentrification, Regeneration, Social isolation	Sustainable population growth, Environmental management	Sustainable population growth, Housing crisis, Statecraft	Economic life, Speculative development, Gentrification, Regeneration, Housing crisis	Lack of green spaces, Speculative development, Gentrification, Regeneration, Housing crisis
4. Brief description of social innovation action	Network building, Cultural programme	Network building, Incremental regeneration, Start-up ecosystem	Network building, Crowdsourced planning, Prototyping Space	Online engagement platform, Citizen decision-making	Network building, Energy Commons, Community micro grid	Commons, Citizen Assembly, Legal Innovation, Rights-based	Commons, Citizen Assembly, Legal Innovation, Rights-based	Occupation, Network building, Protest, Cultural programme, Rights-based	Occupation, Protest, Network building, Cultural programme
5. Stakeholders involved	Dublin Docklands Cultural Forum, Dublin City Council, Stakeholder ecosystem, Citizens	Porto Digital, Prefeitura de Recife, Cesar, Estado do Pernambuco, Companies, Citizens	Christchurch City Council, Canterbury Region, Regenerate Christchurch, Stakeholder eco-system, Citizens	Moscow City Government, Smart City Team, Citizens	Bronzeville Urban Development, Universities (IIT), Stakeholder eco-system, Commonwealth Edison, Citizens	Tuaths, Brehons, Taoisigh, Citizens	SFR Yugoslavia, Communist Party, Belgrade City Government, Academia, Architects, Communes, Citizens	MSTC, Occupations, Residents, Prefeitura de Sao Paulo, Stakeholder eco-system, Architects, Citizens	MEL, City of Lille, Ville Rénouvellée, Architects, Local Residents, Ecological Associations, Citizens
6. Engagement methods	Bottom-up	Top-down	Mixed	Top-down	Mixed	Bottom-up	Mixed	Bottom-up	Top-down
7. Barriers encountered	Politics, Governance, Funding	Ownership, Participation	Politics, Ownership, Governance, Participation	Ownership, Governance, Participation	Politics, Ownership, Governance, Participation	Governance, Politics, Legacy	Politics, Participation, Legacy	Politics, Ownership, Governance, Participation	Politics, Ownership, Governance, Participation
8. Methods for overcoming the barriers	Engagement	Engagement, Increased participation with government	Engagement, Increased participation with government	Limited Activism (online)	Self-management – proposed but not in place	Self-management	Self-management	Self-management, Activism	Activism, Visibility
9. Support from the governance system and its effect	Minimal – Negative	Significant - Positive	Significant – Negative	Significant – Neutral	Minimal – Negative (Under current admin.)	Significant - Positive	Significant - Positive	Minimal – Neutral	Significant – Negative
10. Initial and/or long-term solutions/outcomes of social innovation actions.	None	Measurable social and economic benefits, Number of strategic plans	Bottom up strategy for regeneration – not adopted by regional government	None in real terms	None – No political backing, Death of community leader	Ultimately failed	Ultimately failed	Provision of social housing by government, Popular support, Resilience*	None – project stalled

Table 4: Matrix of research findings

Reflexivity is a key feature of this method, as well as the importance of building open, trusted relationships with stakeholders (Kellet, 2011). In the case of this global study, social media has been an integral part of initiating and maintaining connections with representatives of each community and their network of social innovation. The researcher continues to engage with these contacts and monitor developments as they unfold.

With a background in participatory design, the researcher had initially intended adopting a 'community architecture' approach using more design thinking tools to structure conversations with stakeholders and communities (Jenkins and Forsyth, 2009). In practice this was overcomplicated and diverted focus from the dialogue at hand. Over the research period, the researcher began to question the value of 'participation for participation's sake' in architecture, informed by discussion identified in literature review. While some like Till (2005) believe that *"participation presents a fundamental threat to normative architectural values"* (Till, 2005:25), others see participation as purely tokenistic or even a way to legitimise opaque or authoritative decision-making (Jenkins and Forsyth, 2009). The theories of Schon (1983) around the reflective practitioner, have given the researcher confidence in the selected approach and helped with the analysis of qualitative data and opinions. In a volume on *Transdisciplinarity,* Yaneva (2011) explains how Schon's (1983) ideas constituted a revolution in design anthropology, questioning the roles of politics, society, economy and culture in architecture. This means using design thinking tools to map a particular scenario or controversy, and engaging in ethnographic practice to understand what design does and how its processes impact society (Yaneva, 2011). Controversy in this case is defined as *"architecture in the making"* (Yaneva, 2011:122). Yaneva (2011) explains how these tools - and models such as Actor-Network-Theory - allow researchers to understand better, the consequences of design. *"A building, seen through a series of contested projects and users' demands resembles much more a complex ecology than it does a static object"* (Yaneva, 2011:125). Yaneva (2011), like Schon (1983) and others, sees the reflective designer as one who deals with uncertainty and complexity - gradually solving design problems through iterative ethnographic inquiry (Yaneva, 2011). She writes that only through a *"constant attention to the performativity of design can design education sustain its integrity, value and effectiveness"* (Yaneva, 2011:127).

Reflecting on the research conducted over the course of doctoral studies, a number of themes warrant discussion that could inform subtle changes to the methods used. With the help of methodological frameworks developed by Schon (1983), Gibbs (1988), and Honey and

Mumford (1986) - the researcher identified several areas that could impact on the validity of the research approach and the robustness of data collected.

Researching social innovation in the built environment invariably take place close to some quite contentious - and political - situations. This means that in some case studies, informants and other stakeholders engaged as part of ethnographic research were unwilling to sign off ethics forms or other documents that would put their name to an opinion not favourable to local authorities or their government, even when assured that all information will be anonymized. For research in Moscow, São Paulo and even in Lille this was a problem. In the context of Brazil, the criminalisation of occupation presented an additional barrier for participants. As a result, the researcher was uncomfortable with how qualitative data collected would be perceived. However, considering the academic position on ethnography and qualitative research laid out above, the researcher had to accept and respect the interviewees' wish as the same problem emerged again in subsequent case studies. This reminded the researcher of the multiple stories and opinions - as diverse as the city itself - that are captured in an ethnographic study and that each of these narratives is as valid as the other. Cognisant of findings from the literature review, and reflective of the position of Monbiot (2017a), Sennett (2012) and Mazzucato (2018), these narratives are crucial in allowing communities - and globalised society - to imagine alternative futures, systems and solutions.

Reflective analysis, in particular around the Lille case study - which appears to tie together a number of themes presented in other cases - has made the research question the notion of 'community' in architecture as a contested concept. Redevelopment of the brownfield site in Lille is mainly contested by the environmental activists 'community', yet supported by residents from the local 'community', the business 'community' and the 'community' of local government decision-makers. This revealed to the researcher that there is no single 'community' in the context of spatial development, and that consensus can only be arrived at through dialogue among multiple groups, that can have vastly conflicting opinions. As politics in general become ever more polarised, research that seeks to identify 'views of the community' will increasingly face problems in deciding who - and what – constitutes that 'community' – and what may be their obligations to same. When planning similar (post-doctoral) research in the future, the researcher will be sure to look to other disciplines - to how they deal with this, and other 'wooliness' in research, and what tools are used to allow qualitative data be represented alongside other research methods. Examples of approaches

that engage directly with such ambiguity and complexity include the Urban-Living-Lab model (Puerari et al., 2018), alongside older anthropological approaches favoured by the Chicago School (Bulmer, 1986). Specifically, where post-doctoral research is concerned, further transdisciplinarity - looking to disciplines such as psychology - diagnosis and therapy - could provide innovative methodologies that could be applied to architecture and the study of spatial production. This would mean connecting with practitioners in other fields and working towards shared outcomes for well-being.

6.2. Knowledge Development: Understanding networks, frameworks and architectures

The structure of the research investigation, split into three phases of *network*, *framework* and *architecture* helped enormously to address the aims and objectives. Concentrating on these phases allowed the case study-related literature review to be focused, and for connections to be made between related cases in subsequent analysis.

Over the course of the investigation, the researcher was able to verify the hypothesis that social innovation social innovation in the built environment takes place within three broad phases of the network, framework and architecture. Findings from across the global set of case studies demonstrate that networked approaches can lead to open policy making where a diverse set of stakeholders can work together to build coherent actionable policies – moving from network to framework. Through collaborative policymaking, a stakeholder ecosystem comprising multiple actors (organisations and groups) may coproduce a framework for change - based around shared outcomes, and agreed spatial outputs. This type of interdisciplinarity can result in resilient architecture – whether actual buildings, or community assets such as social services or supporting infrastructure. In fact, the model proposed by this hypothesis has marked similarities with the *An Extended Social Grid Model for the Study of Marginalization Processes and Social Innovation* as developed by Nicholls and Ziegler in Oxford (Nicholls and Ziegler, 2017). For case studies in this investigation (selected as 'networked approaches') these phases can be observed – alongside iterative development processes informed by feedback loops of varying level of sophistication. The terms network, framework and architecture can be seen to represent the network, cognitive frame and institution referred to in the Oxford model (Nicholls and Ziegler, 2017).

In this doctoral study, each case begins with a network stage – where a network is formed by like-minded stakeholders who feel the need to come together to solve a problem,

or in response to a specific social need. These networks then collaborate on policy formation and the development of a framework - within which social innovation actions and strategic processes can be planned and coordinated. This can involve actual planning activities, and the format of policy formation can be helped by an open process of engagement. Regardless of what these activities actually constitute, the result is often a plan or strategy for intervention – whether spatial, service or policy related. The results of such plans can be platforms, projects, services, policies or actual buildings – all constituents within a broader architecture for (building) resilience. This last phase may produce actual architecture, or may not have a physical or spatial outcome. Each of the case studies went through stages broadly aligned to these phases. Depending on the unique set of requirements, the response and social innovation actions pursued by communities in practice are different across the set of cases. What was not apparent at the beginning of the investigation was the role that politics plays in facilitating genuine social innovation – or preventing same – in each case. The political context is an important feature of the *Extended Social Grid* – labelled as *'sources of power'* in that model - and is referred to later on in this section. Governance, ownership and participation in political and strategic decision-making processes are core themes that resonate with the findings of this investigation. For built environment policymakers, professional and educators, it is important to consider these aspects of the planning process when looking to build community resilience. One prominent finding is the need for new narratives around sustainable development that challenge the accepted political orthodoxies that inhibit social innovation, and discourage robust public investment in the built environment.

In terms of the network phase, effort was concentrated on Christchurch – the environmental case study - looking closely at the network dynamics around Regenerate Christchurch and its predecessors. The research identified new knowledge related to the role of the architect – both within the community network and a coalition of action. The architect as activist reappeared when examining later case studies. Findings from Dublin, São Paulo and Lille call for more activism among the profession, and require new skills (and possibly protections) to support taking critical positions. Architects are adept in performing a translation role between stakeholders. These findings raise important questions around the contribution of the architect to society, and their position as a midwife of unequal, neoliberal and speculative planning. The research suggests that as a profession, architecture should use its position to be a vocal critic of spatial inequality. Insights shed light on how networks of

stakeholders at the grass roots can be constrained by local governments and political systems – and the roles of intermediaries and the private sector – within this ecosystem. Regrettably lessons from Christchurch suggest that instead of bringing forth enabling strategies, governments can often limit social innovation and create competition between a hitherto united group of organisations.

At the framework phase, Moscow – the social case study – became the focus of investigation in which the role of local authorities and policy actors comes further into question. In response to the aims and objectives of that stage of research, the study considered approaches to open policymaking through genuine or tokenistic ways. As governments see themselves more and more as a platform for – or enabler of – social innovation, fundamental political structures and value systems become influential. Tools such as the *Place Standard* or *BREEAM Communities* can help to build consensus among stakeholders, while decision-making is still concentrated in the hands of an elite cadre of actors. In Moscow, findings point to ways in which public opinion can be manipulated to support the ambitions of government, using technology as a smokescreen to sanction speculative development and displacement. More democratic approaches – citizen assemblies - are required, such as those identified in Yugoslavia and Gaelic Ireland that supported inclusive growth strategies in past societies. In Chicago, powerful agents such as utility companies have ultimate control over whether a community microgrid will be allowed to be prototyped, which may in itself be a mask to divert from speculative development elsewhere in that neighbourhood. Openness and transparency that can hold government proposals to account is again dependent on the shape of ownership, participation and governance.

Finally, looking at findings from the final, architecture phase, a number of typologies – systems and solutions – presented in findings fulfil the objectives of research. During this stage research was concentrated on the São Paulo – the economic case – and what architecture(s) for resilience may be required to support urban communities in their livelihoods. The need to build structures outside of traditional frameworks - sometimes illegal or extra-legal – emerges as a core theme when considering built solutions and services for disempowered groups. In particular the need for an insurgent activism within the discipline of architecture and planning, presents a great opportunity for the profession to reconnect with its core beliefs. Again, governance systems came to the fore as the primary obstacle to social innovation, with oppositional approaches demonstrating the greatest capacity for resilience in these

communities - alongside models for community self-management. The São Paulo case shows that an activist architecture – 'architect-activists' and 'anarch-itects' – are needed to challenge spatial inequalities and guarantee already legislated rights for citizens to a dignified economic life. The case of Yugoslavia cautions us against too much 'withering away' of the state, and the importance of well-nested enterprises on decision-making. The final case study in Lille brings a new response to answer the aims and objectives of this study, and lays out new pathways for research around identity politics in space, and post-politicisation of planning. The intersection of political thinking with community planning and social design is one such area where a transdisciplinary approach to research should include architecture.

6.3. Key research findings

6.3.1 Social Innovation Actions

The social innovation actions observed across the set of cases studies are similar enough to be categorised, with some advancing further towards their goals than others - depending on the level of financial (and political) support. Even though research was structured by phases of *network*, *framework* and *architecture* – activities are broadly consistent across the cases – irrespective of the level of impact or advancement. These range from the building of networks of stakeholder; strengthening systems for open decision or policy-making; to the management or construction of physical architecture. Specific activities include **network building** (community, entrepreneurial and capacity building), **planning and programming** (co-design and engagement around policy) and **prototyping solutions** (design and development of architectures).

6.3.1.1. Network building

A feature of the majority of cases examined – networks grow out of a need, which necessitates the bringing together of a host of skills and competencies from within the community itself. However, approaches taken in each case differ, which may impact their successful (and scalable) outcomes.

Locality and embeddedness

For the city of Christchurch, the immediate damage of the earthquake meant that a network grew organically in response to the clear and present need to make buildings safe, create (new)

public spaces for assembly, and initiate a dialogue around the reconstruction. Interviews with key stakeholder organisations reveal how *Studio Christchurch*, *GapFillers* and the *Ministry of Awesome* developed transitional strategies in dialogue with residents (before this coalition of action became more formal through working with local authorities). The network grew from the grassroots, and included architects – some working with the city council at the time of the earthquake - who went on to work with *Regenerate Christchurch*, a body later established by government to engage communities and stakeholders around the regeneration. Much of the social innovation produced in the initial period - informed by tacit knowledge, and lessons learned during the transitional phases – led to radical spatial and service concepts for the new city. However, the creative aspirations and momentum of the network have been dampened by the government bureaucracy, and the in-between layer created by *Regenerate Christchurch.*

In other cases where speculative development – also positioned as regeneration – is seen to be a threat to community resilience, network building is seen as an important first step towards resilience. The *Dublin Docklands Cultural Forum* was envisaged as a mechanism to give a voice to unheard local communities whose livelihoods are impacted by the scale and shape of regeneration in their neighbourhood. It was established by local cultural producer Vincent McCabe, as a response to the lack of community engagement – and wealth distribution – accompanying the transformation of Dublin's docklands. In the same way, the formation of Bronzeville Urban Development (BUD) came out of a need for that community to develop similar capacities for resilience when faced with speculative development and foreclosure in South Chicago. Established by community activist Dr. Danielle Kizaire it was conceived as a vehicle to invite collaboration around concepts of self-sufficiency and energy independence. As in Dublin, BUD has struggled without financial public sector support.

Values and approach

The approach of networks can differ, with some choosing to align themselves more closely with the objectives of government (growth) as opposed to the values inherent within the local community (inclusion). For *Porto Digital* in the port of Recife, socio-economic regeneration is actively pursued in coalitions of public-private partnership. There the network consists of many local government and state agencies alongside the university and start-up enterprises themselves - a joint effort between public and private stakeholders supported by the Inter-American Bank. It can be said that this coalition has been assembled top down as opposed to

being built bottom up through community actions. In fact, community stakeholders have come later to this grouping as incremental regeneration necessitated a deeper engagement with them.

Similarly, the network of stakeholders working with Moscow's Smart City team, are mostly state actors, or hybrid organisations – joint ventures - funded by state coffers. This is a closed network, and while the *Active Citizen* platform is designed to open up decision-making in theory to all citizens, the underlying network is populated by government actors. Equally, while in former Yugoslavia enterprises worked closely with architects and construction companies in the development of mass social housing, this network building took place in an admittedly top down way. This was due to – as in Moscow – the state, in this case being the Communist Party, having ultimate power over the shape and process of collaboration.

Outcomes and successes related to networks

The most successful coalition of partners examined was found to be the MSTC in São Paulo, itself a network of networks – including the residents of occupations, activists, professionals in service of 'the struggle' and co-opting relevant subject-matter experts (lawyers and electricians, as well as architects). It was formed of like-minded people in precarious housing situations seeking to defend their rights as guaranteed by law, sharing values of solidarity and circularity. The MSTC's success may be linked to the level of engagement between residents and external partners, their unwavering commitment to social equality, and a willingness to challenge risk-averse or failed governance.

Consisting of a majority of private sector stakeholders, the development partners in Lille have assembled through another top–down process. To counter this, network-building has occurred among grass-roots environmental organisations to oppose development. This said, however, operating in direct opposition to local government has meant that while the environmentalists have been able to stall development in the courts, they remain locked out of any meaningful dialogue with the metropole around the fate of the project at *friche* Saint-Sauveur (Saint-Sauveur brownfield site).

Through networked collaboration these communities have been able to organise activities that work towards building a consensus (at least around what they don't want) and work toward strategies, proposals and actionable frameworks that can help them realise their ambitions. Networks are making steps towards autonomy, self-reliance and resilience, yet

further research is required to understand if these networks have any lasting impact on decision-making in the medium to long term. Longitudinal studies will help to understand the social impact of networked action.

6.3.1.2. Planning and programming

Activities that bring communities closer to a framework for transformation primarily include engaging the wider network – residents and citizen stakeholders – in visioning, decision-making and participatory planning. Ethnographic research, consisting of semi-structured interviews with stakeholders in each location, was the main tool used to probe informants about strategy and framework formation.

Overarching mandate

In Christchurch, a deep and comprehensive programme of engagement begun by the city council worked with residents to build a detailed strategy for the rebuilding of that city. Based on ideas sourced through grass-roots engagement, and an online campaign, the people-centred strategy was shelved when regional government assumed powers over the regeneration. In pursuit of a more economically-driven recovery, the mandate laid out by the community was discarded in favour of a document more aligned to the needs of business. In this case, regional authorities chose to produce their own strategy - in a similar format yet with imagined stakeholders, as opposed to the real people and (their) ideas in the council's published vision (Vallance, 2015). Subsequently the establishment of *Regenerate Christchurch*, while designed to maintain community engagement, ultimately grew a greater distance between the wishes of the community and that of the regional government.

In Chicago, the energy policy of the Trump administration cut funding to a scheme that would have allowed the community microgrid to be prototyped in Bronzeville. Indeed, *Commonwealth Edison* have engaged limited community involvement – and obligations to same - in the concept since the political winds changed.

Community involvement

The researcher found that across the cases, this phase of planning for social innovation in the built environment – is generally a closed process. The exceptions to this being the initial – later superseded - consultation by Christchurch City Council, and the early planning activities in the

case of Recife and its environs. *Dublin Docklands Cultural Forum* has managed to get a seat at an oversight group - Docklands Oversight and Consultative Forum (DOCF) - looking at development in the docklands, but any deeper participation in planning is limited. As a cultural organisation, the forum has begun to engage the public in projects celebrating local arts and culture, but has so far not been able to deliver on ambitions to facilitate conversations around spatial transformation. Local residents remain at the mercy of rampant development, which has irrevocably changed their built environment.

While promoted as a successful tool for open consultation, users of the *Active Citizen* platform in Moscow - developed by the metropolis's Smart City team - are significantly limited in terms of their options to shape decisions in that city. Significantly, genuinely open decision-making was a crucial function of the Gaelic system, through triennial assemblies collocated with trade fairs and cultural events. Evidence of this can be seen in place names of Ireland and Scotland, such as *An Aonach* (Anglicised to Nenagh), meaning *the (place of) assembly* in County Tipperary (Logainm.ie, n.d.). Joint-decision-making through assemblies is equally a feature of the housing occupations (and MSTC) in São Paulo, as with the *mesna zajednica* (local assembly) of Yugoslav housing schemes.

Outcomes and successes related to frameworks

As is the case in Lille, the political context has stalled social innovation from progressing towards solutions – or architecture(s) for resilience. While regional and local government have committed to an ecological approach to development in their strategies, these are not open to inputs from community stakeholders, impacting ultimately on ownership. If political will to engage - to act on the ideas at the grass roots, and incorporate them into strategic frameworks – is lacking, then communities will be reticent to embrace development plans, no matter how sustainable, or ecologically sound. On the other hand, in Recife, *Porto Digital*, through its urban-design spinout - *ARIES*, *Recife Agency for Innovation and Strategy* - contributes quite significantly to planning discourse both for the city of Recife and surrounding regions in Pernambuco – its main audience for engagement is not community but enterprise. ARIES takes a transdisciplinary approach to facilitate long-term visions the future of Recife – working cross-sector on design and public policy development in the planning area – yet with limited community participation.

This points to success in enacting frameworks being linked (or even dependent) on political buy-in, and systems of governance. Engagement with stakeholders in the process of framework formation - building ownership through participation – has an impact on the successful delivery of strategies, be those community, public or private sector stakeholders.

6.3.1.3. Prototyping solutions

When looking to the outcomes of network building and framework formation, the shape of resilient architectures is again reliant on the will of governments to take forward plans and spatial strategies. In analysis it was found that governance systems – and politics – had a significant effect on the development of (built) solutions.

Governance

Resilient solutions can be facilitated by progressive policy frameworks that are supported by open and ambitious governance. The assembled cases consist of diverse stakeholder eco-systems - where public, private and community organisations participate to varying degrees. The participation of governmental stakeholders would seem to have the most positive or negative effect on innovation – the closer that government stakeholders are to social innovations activities – the less likely they are to succeed. For example, in Christchurch, a bottom-up community of stakeholders developed a comprehensive strategy for the regeneration for that city following the earthquake. This was done through a series of events at the grassroots, prototyping spaces and canvassing stakeholders as to their vision for the regeneration. An outcome of this exercise was a crowdsourced strategy for radical civic and spatial transformation led by the local government. However, when the regional (Canterbury) government assumed responsibility for the regeneration, they produced their own strategy – printed in a similar style – but based on no consultation whatsoever. The socially innovative approach taken at the beginning, based on participation - was essentially negated by the regional government, reducing the level of ownership over the eventual reconstruction. While a number of project ideas were later devolved to development body *Regenerate Christchurch* - established under the Greater Christchurch Regeneration Act 2016 – few have led to realised spatial outcomes.

In the case of the Moscow, the technology platform developed to allow citizens to participate in decision-making was designed in such a way as to exclude contentious spatial

questions that had any real impact on planning. While the platform gives the veneer of citizen participation, citizens soon realised that they had no power to effect any real change. Public support can be lost if there is no trust in the (formal) engagement process, or if choices available are limited to what is already defined as in scope by governments themselves. In Moscow, demolitions continue apace, while outcomes of decision-making on *Aktivniy Grazhdanin* are rarely manifest spatially.

Legal and political powers

Legal capacities – alongside expertise from planning and architecture – is a required capacity across many of the networks, and for São Paulo in particular, where a rights-based argument is used to justify occupation. When considering the Lille case, stakeholders have been intentionally excluded from discussion, and debate shut down entirely when opposition to spatial proposals was given a legal support in court. Local governments in France are obliged to engage stakeholders but not to listen to them. Past examples from both Gaelic Ireland and Yugoslavia are evidence of more bottom-up approaches, yet the underlying economic systems which facilitated these models were eventually superseded by (neo)liberal systems meaning that decision-making was transferred to individuals or land-owning households from collective groups or organisations.

In Christchurch, a deep and extensive programme of engagement was essentially ignored when it came to producing actionable strategies. In both Recife and Dublin, engagement with community stakeholders did not take place, or was minimised in favour of engagement with experts. In Chicago and Lille, the community organisations are locked out of decision-making entirely, with plans dominated by opaque actors. While Bronzeville Urban Development put together a board with academics, engineers and architects, their proposal for a community energy grid is only mildly entertained in practice by utility company (and regulator) Commonwealth Edison.

Outcomes and successes related to architectures

Recife has provided a good model for incremental regeneration based on underused and or redundant built assets. While economic development has brought wealth into the port neighbourhood, the main beneficiaries of this are private sector stakeholders – developers, business and enterprise. The team behind Porto Digital are mindful of this, and how the fruits

of growth can be shared more equally – including providing employment for local people in start-ups and enterprises. Innovative public services are prototyped in an open innovation lab the neighbourhood, which recently opened a crèche for workers and local citizens alike (Morosini, 2020). As community engagement increases it is hoped that the local community can participate more fully in decision-making related to spatial planning (and investment).

The São Paulo case represents the most active engagement between stakeholders at all levels, with the occupations seeking to engage with the public to improve visibility, with involvement of governmental organisations to guarantee their spatial rights. This includes a comprehensive programme of events for local communities in the centre of the city, but also inviting in supportive individuals from complimentary social movements. A weekly Sunday lunch event, *Cozinha Ocupação 9 de julho* extends an open invitation, while concerts with superstars such as Caetano Veloso raise the profile of the occupation in the media. This publicity has helped to generate support while MSTC leaders are pursued in the courts.

Overall, engagement with communities on spatial development can be bottom-up or top down, or even a mix of both. However, as the discussion over neoliberal approaches to planning given in this thesis demonstrates, any participatory activity - network building, planning and programming or prototyping solutions - can be ultimately tokenistic if it is (incompatible with the will of government) unable to influence real decision-making. In São Paulo, residents of *9 de julho* welcome in the curious to participate in the occupation. In Chicago, concepts for the microgrid are made credible through collaboration with imaginative students at Illinois Institute of Technology. In Lille, the associations guarding the *Friche* have erected a big middle finger faced in the direction of the town hall, next to a self-built space that hosts their assemblies. Social innovation actions that happen contrary to the 'source of power' may have more success in bringing about community resilience, and be more scalable through open-source collaboration at a global scale.

6.3.2 Core themes present in research

Given the wide perspective taken in doctoral research - across a global set of case studies – it was evident that three core themes were recurring in successive case studies. This suggests that the challenges faced by communities in the pursuit of social innovation are shared across multiple contexts and geographies. Social innovation is pursued in every case as a response to a need – resultant form a social, economic or environmental challenge. For all communities -

the impact of networks, frameworks and architectures on building resilience is dependent on the systems of ownership, participation and governance. Key research findings are based on these themes - Governance and underlying political systems; Ownership and resources; Participation and insurgent activism. These three areas warrant a deeper and more detailed examination.

6.3.2.1 Governance

First and most importantly, the underlying political system, its values and how the rights of communities are upheld impact social innovation in the built environment. As this thesis has shown, neoliberal and hyper-capitalist approaches to development increase spatial inequalities, making social innovation more difficult. As evident in Christchurch, while close networks emerge within communities of like-minded stakeholders, the social impact of collaboration depends on the overarching political system, its values and laws. A framework for transformation may emerge from the grass-roots but can dissolve once it faces fiscally conservative or liberal governments. As seen in Gaelic Ireland, codes that favour the collective can enable legal frameworks for the commons, and can be made more resilient through self-management as in the case of Yugoslavia. Opaque and closed governance as seen in Moscow, Lille and Dublin erect barriers to networked social innovation.

The power dynamics associated with neoliberal policy, where the invisible hand of the market shapes spatial inequality justifies closer examination for their impact on space. Of all three areas, it is nature of governance that has the most impact – negative or positive – on social innovation. Government support can provide social entrepreneurs with the space to take risks, invest in prototyping and scale solutions. Concepts such as *living labs* allow cities to become literal platforms for innovation that host networked collaboration between diverse disciplines. Governments can choose to be open with their data, and share decisions on their budgets that fund testing of new ideas. But governments can also stifle innovation, not only through withholding funds, but by pursuing unsustainable policies or opaque planning process. Midway through doctoral research these overarching themes became most apparent, as the researcher was discussing the *Active Citizen* participation platform developed by the Smart City team with citizens in Moscow. The line of inquiry that grew out of that case study guided subsequent doctoral investigation within these three themes, and forms the basis of discussion and analysis of research findings.

6.3.2.2 Ownership

The research found that the theme of ownership is important for communities looking to build resilience - in terms of their ability to shape decision-making in the planning area themselves, and the ability to reimagine underperforming social assets, including buildings and space. Community ownership leads to the sharing of public value – and brings into question how common resources are managed and distributed within a community - and the structures of collective risk and reward. Across the majority of case studies, community networks sought to maximise best use of their common resources – be they physical in the shape of redundant infrastructure or vacant buildings; human, social or cultural capital; or less tangible resources such as opportunities. Communities who firstly exercise ownership over local assets and subsequently make use of these assets to develop social innovation are generally more resilient, becoming more self-sufficient in the process. Strategies that support social innovation are those that take a networked approach to (built environment) planning, taking advantage of collective resources and tacit knowledge within the community. Strategies for developing a commons and circular economy systems are based on principles that repurpose shared assets – and maximise public value. In Chicago this is envisaged by a solar farm built on a railway embankment; in Recife, fashioning an abandoned neighbourhood into a distributed innovation park; and the transformation of the brownfield Saint-Sauveur area in Lille. These examples demonstrate the link between creating public value and growing social capital.

6.3.2.3 Participation

Finally, the nature of participation within communities (and the networks they create) has significant implications for their capacity for resilience, and the legacy of social innovation. Networks that comprise multiple actors – social champions and experts – allow risk to be shared alongside tacit knowledge, skills and expertise. A closer analysis of network dynamics – bond formation and behaviours may yield a more forensic understanding of this. Within some of the cases studies, Chicago for example, the resultant social impact is dependent on one high achiever or social champion. It remains to be seen if the death of Dr. Kizaire will stall the development of the energy commons for the residents of Bronzeville. Personalities are important and can take stakeholders with them or harden opposition. Lille being a case in

point, where a single politician can be seen to wield too much power to either block or enable social innovation. In the case of São Paulo, arguably the most resilient community studied, the invitation to participate extended to the wider community actively helps to develop resilience among residents of housing occupations - meaning that targeting the leaders with imprisonment has not damaged the wider cause, but strengthened it. Openness and genuine participation – involving feedback loops – may safeguard communities from negative portrayals of them and allow new narratives around public value – and *Rights to the City* – to grow and solidify. New technologies can play an important part in connecting communities of practice, the sharing of tactics and knowledge transfer.

6.3.3. Barriers to Social Innovation and methods for overcoming them

In the majority of cases, existing professional links and the language capacities allowed the researcher to dig deep into the cultural context of each one. This in turn made for more open and honest conversations with informants – who spoke honestly (although with anonymity in many cases) about the barriers their communities faced to nurture and scale social innovation. Social innovation is understood as a process, and while many communities have been unable to generate sustainable transformation, they have built up capacity through their actions that nevertheless contribute to their social, economic and environmental resilience. Issues of ownership, participation and governance are all barriers to social innovation, as discussed above.

Governance – and indeed short-sighted politics – can scupper transformative social innovation at all scales. For example, the stakeholders involved with *Regenerate Christchurch*, while not having a wholesale impact on the regeneration strategy, have had an important impact on the ecological vision for the city and region – as demonstrated in the success of the *Ōtākaro Orchard* and other smaller scale initiatives with Rebuild Christchurch (2019). Their work continues, as does that of communities in the São Paulo, Dublin Docklands, South Chicago and Lille – even though a dialogue with decision-makers may not. By co-opting neoliberal agendas, communities such as that in Recife and to a lesser extent Moscow, can still contribute to incremental change – if they have the ability to input. However, as documented in many of the cases, participation can lure communities into giving tacit consent to speculative development projects that are not in their interest, and will in fact negatively impact their capacity for resilience in the longer term. When viewed alongside participation, models such

as self-management and insurgent activism tactics devolve ownership over spatial challenges to communities – and have proved more effective in trying to overcome the barriers to social innovation – often erected by those in power, who claim to seek a redress to wealth and opportunity imbalances. Tokenistic engagement and pointless participation as previously highlighted, are found to be barriers to social innovation, and can be manifest in many ways. Funding constraints in the pursuit of global austerity politics are used to delay (social) development, and mean that investment in (social) infrastructure has been limited since the global financial crisis. A lack of ownership over decision-making - not limited to planning but including other social spending – further alienates communities, already suffering from neoliberal policies and globalisation.

At a more granular level each case study presents its own barriers to social innovation - while specific to the given political, spatial and cultural context - they share many similarities. Of all the themes, governance stands out as a barrier to social innovation in all the cases – both in terms of the political systems, and the lack of democratic means within these communities to pursue transformation. Polarisation and populism contribute greatly to the growing democratic deficit across the world, which is manifest most obviously in a housing and homelessness crisis. By opening up their doors, and letting the public in, communities aiming to build greater resilience - such as the occupations in São Paulo – can build new alliances that can buttress their movements.

Communities often see themselves better able to bring about a sustainable community resilience in light of government failures but lack the adequate tools to do so. Self-management – where communities assume responsibility for the planning and distribution of their own collective resources is employed as a method to overcome these barriers in many of the cases studies. Most significantly in former Yugoslavia, São Paulo and Chicago, but also in the Gaelic Ireland example, which demonstrates a precedent in pre-Enlightenment Western Europe. The Yugoslav case offers a high-level example of how self-management can be employed to allow communities to manage how and for whom settlements are both designed and managed. It also provides insights into failures of the policy, and how it may be refined in light of both our current challenges and the opportunities presented by new technologies for transparency and accountability. Chicago's Bronzeville Urban Development (BUD) could develop a similar system to make best use of their resources, and use legal precedence from Gaelic Ireland to protect their assets and rights. For them, the occupations in São Paulo - where an ad-hoc yet

sophisticated form of self-management has been put in place - offer enormous hope to communities seeking to build an (urban) commons as strategy for resilience. In that city, models of self-management developed by movements such as the MSTC are spreading to the disenfranchised periphery. They are employed by those communities to self-mobilise, and build new and manage social infrastructure – public realm and community buildings. Ironically, some liberal administrations view these self-sufficient communities as less of a burden on the state and are willing partners to support bottom-up community actions.

Similarly, insurgent activism is becoming more widespread as communities feel increasingly unable to confront spatial inequality through traditional democratic means (such as voting). These strategies include the engagement of new audiences within the wider society, inviting them into spaces of political opposition in order to draw attention to – and challenge – neoliberalism in the built environment. In the case of Moscow, where political association on the street is criminalised, groups have used Facebook and other social media platforms to publicise their cause, and fight against eviction and demolitions. The *Active Citizen* platform is used to sanction decision-making as supported by the community, is an example of how innovation can be used to shut down open public discourse on planning. The Москвичи против сноса (против закона о реновации) public group on Facebook presents a vision counter to that the city government wishes to present, therefore overcoming barriers to social innovation set up by the state. Social technologies outside of the control of government allow citizens to monitor spatial injustices - such as demolition, substandard construction, planning infringements and the decanting of residents to the periphery. Above all, it is a commitment to greater openness and transparency visible in bottom-up actions from Christchurch to Lille that offers the most useful tool to counter these barriers.

New narratives are important to support social innovation in the built environment – that challenge the perception that the capitalist mode of production is the only way to organise our politics, space and society. Indeed, within the profession of architecture itself new - and more positive – narratives of the role of the architect – as activist, as community partner and as agitator – are required to offset negative connotations of the architect as *collaborateur* in harmful speculative development. Space is political, meaning that no longer can the architect feign neutrality in mediating or participating in spatial conflicts. New voices and views that

challenge old beliefs about the role of the state in facilitating innovation, investing in people and community are also beginning to penetrate.

6.3.4. Politics of Space

As previously discussed, the researcher found that across the investigation, governance systems and the political context is the main barrier to social innovation in the built environment – particularly the neoliberalism that spread across the developed and developing world in the final decades of the twentieth century. A lack of government support for social innovation remains the biggest barrier to greater spatial equality – and therefore resilience - in our communities. An even bigger threat is a neoliberal model that commoditises home as an asset to be traded, and brings architecture and built environment assets into the market. In the Dublin Docklands case - without adequate funding from Dublin City Council, the *Dublin Docklands Cultural Forum* has been unable to get off the ground, while rampant speculative development continues apace – with explicit government (financial) support in the docklands. Following tactics in Brazil, activists have pursued insurgent activities such as occupation to highlight inequality and displacement in that community (Mallon, 2017).

In the port of Recife, residents have on one hand reaped the benefits of incremental gentrification of their area while simultaneously raised suspicions about the benefits of same. As the stakeholders involved in *Porto Digital* take responsibility for wider planning decisions in the city (and State of Pernambuco) close monitoring of regeneration will be required to keep neoliberal development in check. The researcher has been able to only follow that case at a distance.

In Christchurch where commentators lament that the earthquake facilitated the development of a world class twentieth century city in the twenty-fist century, it would appear that the chance has been lost to deliver the type of social innovation envisaged by *Regenerate Christchurch* and their partners. This said however the activities of the network continue, realising ambitious concepts such as the *Ōtākaro Orchard* through relentless agile prototyping and collaboration. What is missing from government is the social brokerage required to install creative partnerships to fund and sustain social innovation.

The decision-making platform studied in Moscow is to be rolled out across the Russian Federation, to silence discontent with planning decisions in Ekaterinburg and elsewhere (Zhelnina and Tykanova, 2019). This demonstrates a dangerous precedent for how technology

is used to manipulate and distort public opinion on planning, and stifle social innovation. Similarly, in Chicago, autocratic governance practices favour the interests of opaque actors – utility companies and neoliberal universities cum-property developers – over the desires of the citizens of Bronzeville to manage their own resources and development pathways. Adequate legal provision – the likes of the type provided in Gaelic Ireland through Brehon Law - is required to guarantee the *Right to the city* and to the commons. The decimation of the Gaelic system following Cromwellian conquest (and Elizabethan enclosure) in Ireland does not bode well for the adoption of these rights in contemporary societies. In fact, similar guarantees afforded by the Yugoslav system were allowed to disappear following the dissolution of that system – with devastating effects for the successor states. The stalemate observed in Lille represents a dangerous precedent for how participatory dialogue can be shut down entirely if it runs counter to the vison of the prevailing government. Within a context of post-politicisation, it can only serve to disenfranchise communities further in the face of speculative development approaches. In fact, only the communities in São Paulo have managed to achieve greater resilience through their social innovation actions, and this is threatened by proposals under the current far-right administration - while the numbers of homeless increase exponentially (Bergamo, 2020).

This brings us to a curious overarching finding of this investigation, that to achieve social innovation in the built environment, communities must pursue an insurgent activism – bringing with it new roles for the architect as activist – where disciplines, interest groups and individuals come together to collaborate on an alternative vision for society - one that is more equitable, and that does not threaten the very existence of humanity. In order to get closer to enacting such a vison we must present new popular narratives that promote circular economy, shared resources and inclusive growth models. Further research is required to understand if such a vison can be compatible with the neoliberal system in the short term – and how in the long term we can graduate towards hybrid economic models (and forms of urban commons).

What stands out as a common theme across all the cases examined is how increasing inequality is manifest in the built environment. Public dissent with the status quo – with the concentrations of resources in the hands of the few – has in recent months alone mobilised citizens from Santiago to Khartoum, and from Paris to Beirut (The National, 2019). Commodification and the monetisation of home has exacerbated acute housing crises in a number of cities and territories, while trends towards populist governance decreases our

ability to act. The findings of this thesis represent a new beginning in how we document social innovation in the built environment, as networked actions multiply, ever abetted by new technological developments. Information and communications technology can be both a force for good – connecting communities of practice united in the struggle for spatial rights yet can also be tools to advance neoliberal policies and planning orthodoxies. In order to counter this front, architecture and planning research must continue to engage – using deep ethnographic tools – with those communities who are on the front line in terms of building a more resilient future. Future research in this area – over longer periods, and inviting in new critical audiences - is required in order to influence policy and urban governance.

This includes looking deeper at networked behaviours in communities like those surveyed in this investigation, using models such as Actor-Network-Theory and theories informed by ecological and other systems. The findings in this thesis encourage deeper examinations into understudied social organisation and political systems of the past – such as those of Gaelic Ireland and former Yugoslavia. Above all else, given that findings from many of the cases in this thesis demonstrate failures in governance to guide a lasting legacy from social innovations actions, the root political causes that underline these failures in a built environment context require a sober and honest reflection. It is hoped that this thesis represents a contribution to this discourse, and the start of a vocation for this researcher in the mapping of social innovation in the built environment. As architectural research begins to forge new alliances within an interdisciplinary – and transdisciplinary – research framework, this thesis seeks to justify a role for architecture to input into a post-spatial dialogue.

The future of architecture may indeed be less about bricks and mortar, and more about digital platforms, experiences and spaces for dialogue or assembly. The internet has democratised online space, meaning that citizens will come to expect the same democracy within their communities and places. The growth of populism brings new challenges to the concept of (shared) place, and will require new understandings of placemaking (Horgan, 2020). The researcher aims to continue to conduct more qualitative studies – of the nature of those shared in this document – in order to continue to contribute to new knowledge around social innovation and the barrier to same.

6.4. The role of architect

The opening chapters of this thesis have provided a context as to why social innovation in the built environment is needed, in response to myriad social, economic and environmental shocks. The complexities of such a dynamic world, necessitate an architecture cognisant of the social, economic and environmental impacts of spatial development. Over the course of research, a reflexive literature review brought the researcher into contact with many criticisms around the role of the architect in facilitating social innovation in the built environment. At the beginning of the research period, social innovation was starting to mature, and gain traction among architects – many of whom had lost work as a result of the construction sector stalling during the financial crisis. The link between the decline of the construction industry since 2008 and a financial crisis enabled by real-estate speculation demonstrates a neglected precarity within the sector – in terms of how it operates and for whom.

Mindful of the criticism laid at the door of the architecture professions - who it could be argued have enabled neoliberal approaches to development and regeneration – research objectives included examination of policy tools and instruments available in planning. In doing so, the role of architect as community advocate is questioned against behaviours within the profession that favour developers. The repositioning of architecture towards the market has meant a loss in both status and position of the architect as an agent of positive social change. The sustained silence of the profession with regard to evidence-based policy making is evident in proposals that lack the type of joined-up thinking that encourages social innovation. This doctoral investigation has come at an unprecedented period of change for a profession trying to understand how best it could respond to new demands on their skills in communities. New knowledge is thus required to understand the role of the architect within a context where the value of the architect to society was in question. The research looks at the role of the architect within a community eco-system, working alongside diverse professions and stakeholders towards a common good. At a high level, it sets out to fill gaps in knowledge around the practice of social innovation as a strategy for building resilience in communities, and in doing so, looks critically at projects – and policies – of the past alongside emergent models. Many of the cases chosen are related to regeneration – or areas under pressure from speculative development or gentrification. Together, the case studies sought to understand the social impact resultant from design interventions – be they digital, physical or otherwise – alongside ways in which the built environment professions could better articulate their practice towards shared outcomes towards a lasting and sustainable social impact.

Writing in an open letter to Royal Institute of British Architects (RIBA) in 2009, architect Indy Johar explained that *our first duty is to do no harm to the places where we work… we are privileged to co-shape places"* (Johar, 2009). In light of the funding pressures on the public sector, new forms of partnerships have emerged during the last decade that produce efficiency and value on capital building projects. Some of these have embraced social innovation, inviting community stakeholders and public sector partners into the design process, yet these instances are few. In his book on *Future Practice* in architecture, Rory Hyde (2012) lamented the slowness of the profession to take advantage of the opportunities of social innovation, and how *"in a decade where Web2.0 has revolutionised the capacity of citizens to… coproduce"* innovation in the profession is still focused on CAD and BIM systems. The potential for social innovation to create opportunities for citizens (end users of built architecture) to participate in the design of both urban hardware and software has not been fully realised. Given their formation architects are uniquely place to take advantage of these new design horizons, but the profession had been slow to apply the skillset towards wider problem-solving, and the often complex social needs of communities. In his 2009 letter, RIBA Council Member Johar explained that there would be *"no back to normal"* for architects, that *"social usefulness (would) be the new lens analysing everything… forms of practice overcoming the existing pathways of dependencies, momentum and capability gaps buried deep within the profession"* (Johar, 2009)

Since then, there has been a slow-building recognition for architecture as co-producer of social innovation as seen in the award for Assemble at the Turner Prize in 2015 (Gierbienis, 2019), and the positioning of architecture's social role at recent RIBA awards (Jessel, 2019), and at recent biennales in Venice (Hyde, 2019). While the call for architects to become more socially aware is growing, it is not a new one. During a critical period in the middle of the last century, neighbourhood clearances, unsustainable urban planning and social engineering brought much criticism to the door of built environment professionals. The inability to solve spatial challenges like the housing question, with the community in mind apparently led community organiser Jane Jacobs, to describe architects as *"most cunningly ignorant people"* (Hill, 2009). In *After the Planners* (1971), Robert Goodman asked if *"it is no longer possible to masquerade as disinterested, or objective professionals?"* (Goodman, 1971:249). As Johar did in 2009, commentators questioned whether architects *"are in effect, the client for all projects, for it is our own society we are affecting through our actions"* (Goodman, 1971:250). The lines

of inquiry initiated in this thesis are therefore mindful of how the profession might develop to become more socially innovative, in response to the great challenges facing society.

With regard to the profession, further research is necessary to understand if the architect is in fact uniquely placed to manage collaborative efforts towards social innovation, seeking evidence that confirms the opportunities for architects. Themes related to this discourse include understanding skills of social brokerage that may be transferable to/from architecture; what barriers present for architects in the context of networked collaboration and whether architects are adept translators between disciplines working towards a common goal? The ultimate aim here is to understand whether the architect, given their education and formation, is in a position to facilitate social innovation in the built environment. This is done by looking asking questions of architects within the networks of each case study, and asking other stakeholders about the role those architects might have played within that community.

Chapter 7: Conclusions

7.1 Introduction

As referred to many times throughout this thesis, social innovation is a process for finding solutions to intractable societal challenges by bringing together multiple perspectives and sources of knowledge. It is characterised by a group of actors working in collaboration towards a shared outcome - in response to a societal need. The research offers a set of examples from around the world - chosen as networked approaches to solving social issues manifest spatially. In these cases, stakeholders share responsibility for developing an integrated response to issues facing their community, working closely with subject matter experts – architects and other professionals – in a network. Case studies revealed commonalities in how community networks produce social innovation in different locations, and participate in capacity building for greater resilience in the built environment. The global spread illustrates how spatial inequalities are by their nature the same in both the Global North and Global South, and that regional categorisation is less relevant to contemporary urban studies.

The research output can be viewed as a whole – and as a sum of parts, with certain cases having been already published as standalone outputs. Viewing the chosen case studies together, the number of common themes justifies the geographic spread of scenarios looked at. The assembled cases show that the effects of globalisation, neoliberal economic policy and speculative planning are common to societies across the globe - and are not limited to a specific (cultural) context. Literature review describes how built environment researchers are increasingly expected to understand the complex issues facing society from a number of perspectives – cultural, geographic and disciplinary – and influence policymaking towards holistic spatial outcomes. For this investigation, action research has been conducted in the developing world, as well as in more advanced societies. Older socio-economic systems have also been considered to identify positive and negative aspects. In this way, academics can propose strategies for alternative futures through a close examination of both past and present.

The title of the thesis, *Social Innovation Systems for Building Resilient Communities*, is in itself an ontological metaphor on which the research can be mounted. Here, social innovation is understood as something that involves multiple actors and thus requires a

network of stakeholders to participate. A framework provides a structure – for building consensus around transformation among those multiple actors. It allows for the development of a system (a set of agreed rules or principles) - for building the infrastructure of resilience. For some communities this infrastructure may be physical architecture, for others resilience is achieved through activism, or interventions in public service and social work practice.

This doctoral thesis examined cases at each stage of this journey – from network formation to the delivery of socially innovative solutions. Each account is categorised by the type of shock its community faces. In the case of the social case studies – Dublin Docklands, Moscow and Belgrade – all three communities face a housing crisis manifest in similar ways, and follow different approaches to placemaking and social cohesion. In the case of the economic scenarios, the communities in Recife, Chicago and São Paulo, face an existential threat through the loss of livelihood, risking their ability to participate in a localised economic life. The environmental cases – Christchurch, Lille and the study of Gaelic Ireland – all consider ecological approaches that prioritise the ability of the planet to absorb environmental shocks, and use natural resources sustainably. As indicated above, in each case, a network is formed in response to the given scenario, whether a loose or formal coalition of action.

7.2 Contribution to knowledge

7.2.1 Significance and implications of research findings

Firstly, this study being so wide and international represents a new type of doctoral investigation that seeks to identify the global phenomena behind spatial inequality. Sharing similarities across the set of cases – and taking a wide-ranging global perspective - the findings indicate a blurring of the traditional – and regional – boundaries in architecture, planning and urban geography. Research findings highlight the political nature of architecture – something that is often shied away from in both research and practice, but increasingly difficult to ignore. Qualitative data suggests that bottom-up approaches to development are increasingly incompatible with neoliberal planning approaches. This is significant for planning policies that mandate tokenistic participation, but do not put adequate structures in place that necessitate decision-makers to listen to the voices at the grassroots, and even act on them. In many cases – and in several planning disputes – the bureaucracy wins out, and short-termist, risk-averse attitudes to community and spatial planning are allowed to persist. This doctoral research

brings with it important questions around who development is for, and what exactly is 'community' – if there is such a thing as one 'community' in any given place.

The research is timely in its focus on social innovation in the built environment, and significant as it presents ways to overcome barriers to networked collaboration - falling broadly within areas of governance, ownership, and participation. Such strategies include ways to share risk – through partnership and developing interdependent relationships with hybrid organisations and collectives. In order to be widely adopted, socially innovative strategies require the support of new narratives, and an honest understanding of how public value is created and secured - in a context of growing spatial and social threats posed by populism. The research provides a justification for new forms of – interdisciplinary and transdisciplinary – knowledge production, and new concepts for architectural and urban studies, where traditional ontological frames are no longer fit for purpose. Beneficiaries of this investigation include design professionals involved in the design of civic systems and social infrastructure – architects, planners and local authority decision makers. For them, this thesis will provide knowledge for educators and advocates on instances of more open practice and nuanced participatory design processes.

7.2.2 New knowledge

Desk-based research around the related academic and public discourse has gone some way to situating new knowledge on social innovation in the field of architecture. This entailed a comprehensive mapping of published work which allowed the researcher to identify gaps in knowledge, and key areas on which to focus research outcomes. Subsequently, for each case, an individual literature review was conducted in order to understand the unique and specific spatial and cultural context. The identification of critical authors, research themes and lines of enquiry related to each context, allowed the researcher to identify some mechanisms and methodologies that support resilience communities - and map key authors and projects who promote 'cities for people', such as the work of Jan Gehl, Jane Jacobs and Richard Sennett. Literature review – well positioned within the cases studies - has led to some key contributions to new knowledge, not least among the published papers that have grown out of the investigation. At a high-level, the research provides for a better understanding of how social innovation occurs in the built environment, and the barriers to same. Findings verify the hypothesis of network, framework and architecture phases and how these feed into each other

through feedback loops. A deeper – and wider – investigation into these dynamics is expected to yield more insights into behaviours.

The entire study demonstrates that societal problems are manifest spatially, and that these need to be looked at together – holistically – in order to understand root causes and propose actionable strategies. It is hoped that insights into social innovation in the built environment in this thesis can inform better policymaking and development in the planning area, both locally and internationally. The outcomes of research suggest that architects and planners need go 'out into the field' and that ethnographic research approaches should be applied to more research and practice. This would seem to indicate new roles for architects, as brokers of social innovation - working more explicitly towards societal benefits. New skills, capacities, and understandings of 'duty of care' for communities can allow architects to fulfil a more impactful role in social transformation. New frontiers in architecture may mean working to invert spatial injustices and pursuing more 'activist' approaches, joining the ranks of ecologists, and climate scientists. Whatever way the profession evolves, the nuances within individual case studies in this body of research suggest the skillset required will be varied. Most of all, reorganisation will require skills that bring architecture into conversation with other disciplines – anthropology, social and political science at a start.

7.3 Research limitations

At the beginning of study, the research methodology proposed analysis of case studies through live projects in the researcher's own practice developed around thematic areas such as regeneration. The initial research proposal envisaged a much closer link between research and practice, hoping to conduct ethnographic studies on those live projects the researcher was working on as part of their own consultancy – beginning with the Dublin Docklands Cultural Forum. This would have encouraged a much deeper and more embedded set of cases studies – fewer in number but potentially richer in insights. The doctoral investigation therefore does not reveal enough about the changing role of the architect as a producer of social innovation – or how new tools and tactics may impact alternative practice. Originally, the researcher had high hopes to bring user-centred design thinking methodologies from their own work to bear on both research and analysis - through facilitated workshops with key stakeholders and network protagonists on their personal projects. As the researcher's own practice moved to projects less embedded within the community, a recalibration of the research methodology

became necessary – taking a wider perspective in order to understand the process of social innovation in the built environment more fully. This was found to be an appropriate course of action considering the knowledge gap around social innovation and its relationship to spatial design and planning in the literature. At that point, the researcher proposed the hypothesis by which investigation could be structured in 'phases', of *network, framework,* and *architecture*. In turn, format of doctoral investigation evolved to focus on a more coherent set of case studies – selecting three social, three economic and three environmental for each research phase - with a greater focus on understanding common themes among these. The decision to separate research from practice ultimately gave the researcher more freedom to look more critically at the chosen cases, and protected against a biased reading of the spatial scenarios. In addition, yearly symposia at the Department of Architecture, University of Strathclyde, became an important channel for dissemination of findings from the field (in lieu of more frequent blog posts as planned), and initiated a dialogue around the themes presented in the case studies. It is felt that the introduction of this hypothesis into this field of research may help other researchers categorise the shape of social innovation in the context of the built environment, and provide a frame for future studies – leading eventually to more thorough comparisons between scenarios.

In contrast with previous statements, the wideness of this investigation does present some limitations in terms of depth of research. However, as a contribution to new knowledge, the researcher believes that an appropriate scale of focus was taken due to a gap in the literature around the phenomenon of social innovation in the built environment until very recently. Being a broad ethnographic study, the research lacks quantitative data that could provide a more comprehensive level of analysis between the cases considered. While rich in qualitative data, the study has produced insights that need further verification based on a specific set of measurements, looking closer at indicators of resilience – from established resilience thinking methodologies. Tools such as the Place Standard could be used to develop such measurements, as well as established frameworks in the social sciences. The Extended Social Grid model identified in the literature could be developed to look more closely at social innovation in the built environment, and adapted to consider the core themes of governance, ownership and participation outlined in this thesis. The researcher would have liked to have had more time to dedicate to understanding the barriers to social innovation, including low cohesion and government support – in the form of funding and policy. The role of government

in social innovation – and the production of public value however remains a delicate one. Indeed, there are barriers to investigating politically sensitive spatial conflicts, some encountered in this research. Given the ethnographic nature of the study, which included probing difficult themes with citizens, a major drawback is the verification of qualitative data. In the majority of cases, informants were reluctant to put their name to their opinion.

Finally, the research is limited in how far it has managed to understand the changing role for architects in practice in relation to social innovation. While the study identified architect-activism as an area that is certain to grow as the profession becomes more socially aware, little data has been collected pertaining to the impact on architectural practice. Ethnographic studies that show architects who are engaged in social innovation processes – either implicitly or explicitly – could yield more detailed information about the shifting nature of practice. Growing interest in the topic has already encouraged complimentary research in this area.

7. 4 Recommendations for future research

Having now identified a set of recurrent themes, further research might seek to conduct a more forensic study of the dynamics at play in certain cases. In particular, the cases of Recife, Christchurch and Moscow should be followed in order to measure social impact over a longer period. Examples of activism in São Paulo, Lille and its beginning in the Dublin Docklands, would benefit from deeper ethnographic studies that trace their evolution and barriers to same. Historical cases from Gaelic Ireland and former Yugoslavia are both woefully understudied in relation to architecture and would both benefit from further comprehensive analysis – working with other knowledge areas. As emphasised above, developing political contexts in Chicago – as in most of the case studies – could also be better understood through a more interdisciplinary lens, that includes academics across a number of different disciplines. Future research should invite input from areas such as public health and well-being, psychology and related disciplines. The researcher welcomes opportunities to collaborate with others in longer longitudinal studies – building on the case studies presented in this thesis, and others. In particular the relationship between social capital, psychogeography and resilience could be further explored, as well as indicators of same. Ways to measure and understand social impact – in built environment and community planning (services) could be a valuable step towards such collaboration.

As indicated above, while an in-depth reading of each phase and case allowed the most relevant new knowledge around the social innovation process to come to the fore, further research is needed to understand what this means for the profession of architecture, and the wider actors in the field of social design. Further research is needed to understand the role of the architect within this new world, and the opportunities for new applications of architecture and design competencies. Interdisciplinary research in the area of human resource management – business and entrepreneurship could help guide deeper research in this area. Part of this could be concerned with what roles and methodologies shape the practice of social innovation in the built environment – understanding these in the context of building resilience within communities; and developing a position on the role of the architect within that context – to understand if the profession could incubate a new professionalism around the needs of society.

In order to make concrete recommendations on changes required in governance and democratic processes to overcome the barriers to social innovation in the built environment, further research is needed into how the underlying structures of government influence the process. This may look at issues related to funding, procurement, management of collaboration (some of the issues which lead to a breakdown in social brokerage and ultimately act as barriers to social innovation). Such research could be carried out using a lens that understands the city as an ecosystem (of services), and using models for analysis such as Actor-Network-Theory as outlined in literature review.

To conclude, the social sciences offer a broad set of models and methodologies that could inform future research in the area of social innovation in the built environment, including the work of Habermas, Gibbons and the Chicago School. Already departments of architecture have reoriented their departments toward more interdisciplinary – and transdisciplinary research, such as The Institute for Innovation and Public Purpose (IIPP), a department within University College London (UCL) and part of The Bartlett faculty, known internationally for its radical thinking about space, design and sustainability. All in all, the future is bright for the study of social innovation more generally, as society begins to accept the need to address – most significantly – the ecological challenge that faces the planet. While the hard work is still ahead of us, networked collaboration towards shared outcomes for quality of life provides a way forward, and by sharing the burden among knowledge areas, we can conceive of robust

and holistic solutions to transform inequalities – social, economic and environmental – towards a more sustainable coexistence.

Preparation of the doctoral thesis concluded during the outbreak of the coronavirus, COVID-19. As an environmental 'black swan' event, this highlighted the need for collaborative efforts to mitigate negative aspects of this global challenge. It proved that (like the themes raised in this document) the pursuit of social innovation is a global endeavour, and that our common challenges know no nationalities or borders. The unfolding crisis demonstrates the need for a better understanding of social innovation across the world – its processes, frameworks and outcomes – and what this means for the built environment. The fallout of this event will have ramifications on spatial and urban design in the interim, and for many years to come, and that this will become an important research area which will necessitate close collaboration with other disciplines. At the time of writing, governments, business-leaders and policymakers have begun to consider radical changes to the underlying systems of society, prioritising health over profit, and strengthening our common social infrastructure. These are social innovation systems for building resilient communities.

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Appendix 1

Appendix 1 contains samples of questions used in semi-structured interviews related to case studies. The questions were included in a consent form presented to interviewees ahead of each interview.

The questions were designed not to lead, but to allow the interviewees to develop their own story. The interviews aimed to collect qualitative data in order to identify connecting themes and further areas for research in later phases.

1. Research Phase: Networks

1.1 Economic Case Study: Recife, Brazil

In early 2016, semi-structured interviews were held with identified stakeholders within the network of Porto Digital led by the questions below. Interviewees were selected through prior acquaintance with members of the strategy team. Two interviews were conducted with stakeholders working in the area of innovation, a male and female in their late twenties and thirties. Interviews were conducted on site at Porto Digital and lasted a duration in the region of an hour. Audio was recorded digitally and written up thematically.

Network

- *Tell me about the network, and how Porto Digital operates.*
- *What are your priorities, including plans for maker-spaces and other creative spaces?*
- *How does the network inspire a culture of making?*
- *How does this impact communities locally, in the city of Recife and the region?*
- *Please give details of the social infrastructure and services the network is developing.*

Social Innovation

- *Where does the need for social innovation come from?*
- *Is there a scenario of need you can illustrate… what is the need there?*
- *How did you refer to social innovation before the description existed?*
- *Is there a multiplier effect of this social innovation at different scales?*

- *What is the social impact – opportunities and barriers?*
- *Interview techniques were informal, based on an organic free flowing conversation between me and the interviewee.*

1.2 Environmental Case Study: Christchurch, New Zealand

In early 2017, semi-structured interviews were held with the network members in Christchurch led by the questions below to produce a high-level mapping of the network. Engagement with interviewees was facilitated through the organisers of the Design for Social innovation Symposium, held in Christchurch in 2017. A series of ten interviews were held with architects, architecture students, academics, public servants, a historian and an environmentalist - all participating in networks activities in Christchurch. Many of those interviewed had more than one role in the network and were aged from their mid-twenties to early fifties. Interviews were mostly conducted at the symposium venue, lasting a duration in the region of an hour each. Audio was recorded digitally and in logbooks, written up thematically. The researcher also facilitated a participatory mapping of the geography of the network during the symposium.

Network

- *What was the initial focus, stimulation of multidisciplinary working or collaboration?*
- *Who or what emerged from this (e.g. new groups, associations, process or practice)?*
- *How did this influence strategic decision-making and what tools, e.g. Loomio etc., emerged to support this?*
- *What role did local or state authorities, education sector, academia, third and community sector, planners and built environment professionals play?*

Social Innovation

- *What social innovation policies, programmes, projects and services emerged?*
- *Are there innovative plans or strategies that address underlying problems? How have they been formalised? Where are the challenges here?*
- *What are the biggest barriers to participatory planning with communities and grassroots organisations?*

- *How successful is the network now? Is there a need for the network to remain independent of local government?*
- *Who or what is the ideal delivery mechanism for regeneration projects?*
- *What tools does the network require to succeed in delivering an open (source) common vision?*

1.3 Social Case Study: Dublin

Over a period of about a year during 2017 and 2018, the researcher worked with Vincent McCabe and the Dublin Docklands Cultural Forum on strategic development of the network. Over this time, the researcher facilitated several workshops with the core team to develop a mandate for the forum and an engagement strategy. While the forum has still not been able to establish itself formally due to a lack of funding support, the researcher has maintained regular contact – and dialogue with stakeholders. These conversations are recorded digitally, and relationships are continued through social media and sporadic face-to-face meetings.

2. Research Phase: Frameworks

2.1 Social Case Study: Moscow, Russian Federation

In summer 2018, semi-structured interviews were organised with stakeholders in Moscow to understand the themes indicated below. Interviewees were identified through engagement over social media primarily on Facebook, and LinkedIn in the case of the Moscow Smart City team. Having a robust network of contacts in the city prior to their arrival in Moscow, the researcher reached out to citizens against demolition, members of the Москвичи против сноса (Muscovites against demolition) group on Facebook. Seven face to face interviews, and another five through Facebook Messenger were conducted with citizens ranging in age from their early twenties to their seventies – some of whom were employed and owned their own apartments, and others who were renting or retired. Interviews lasted from forty minutes to three hours in some cases. For security reasons most of the interviews were recorded in written logbooks.

Decision making frameworks, especially in relation to demolition and associated urban development in Moscow.

- *What are the challenges facing your community (social, economic and environmental), and what process are in place to mitigate these?*
- *Does your community take a networked / collaborative approach to urban development (yes, no, partially)?*
- *What does this look like (including sub-questions about how these networks look like, e.g. number of people involved, professional profile, trigger moments/situations, leaders, communication, keeping momentum, support from local authorities, support from other organisations, etc.)?*

Aktivniy Grazhdanin (Online portal for citizen decision-making)

- *What policies (local policies or government strategies) allow for greater community participation in development projects?*
- *Who are your partners and how do you collaborate, and is there a common framework/goal (well-being, circular economy etc.) that you work to?*
- *How well is your community able to participate in decision-making and effect change for their citizens? Sub questions included: age, communication (IT and other) skills, education, etc., and questions around property and tenure.*
- *Do you have adequate tools and resource available to you to engage stakeholders (Aktivniy Grazhdanin; Facebook; other government services)?*
- *Tell me about how the online portal facilitates decision-making – in terms of governance, ownership and participation.*

2.2 Economic Case Study: Chicago, United States

In May 2018, semi-structured interviews were conducted with the leader of Bronzeville Urban Development (and nominated stakeholders) to understand the themes below. Contact was initiated with the leader of Bronzeville Urban Development through a referral from a participant at the Design for Social Innovation symposium in Christchurch. The researcher spent several days living with the leader and shadowing their meetings and activities. Interviews were conducted with two other board members via the leader, lasting in the

region of two hours. Interviewees were aged between fifty and seventy at the time. Audio of the interviews was recorded digitally, and written up in logbooks.

Decision making framework, especially in relation to the work of Bronzeville Urban Development

- *What are the challenges facing your community (social, economic and environmental), and what process are in place to mitigate these?*
- *Does your community take a networked / collaborative approach to urban development (yes, no, partially?*
- *What does this look like, including sub-questions about how these networks look like (e.g. number of people involved, professional profile, trigger moments/situations, leaders, communication, keeping momentum, support from local authorities, support from other organisations, etc...)?*
- *Who are your partners and how do you collaborate, and is there a common framework/goal (well-being, circular economy etc. with potential sub-questions)?*
- *How well is your community able to participate in decision-making and effect change for their citizens? Sub-questions include age, lack of communication (IT and other) skills, education, etc.*
- *Do you have adequate tools and resource available to you to engage stakeholders? Potential examples of such tools and resources could be prepared to select.*

Settlement Houses

- *Is there a legacy of the settlement house movement visible in your approach to community development? Sub-questions emerging from the conversation.*
- *Was there a settlement house in your neighbourhood (yes - name, key info; no), and how has it evolved? Key information, e.g. dates, location, organisations involved, social profile, reports, books, etc.?*
- *How do spaces such as the settlement house impact more participatory approaches to community planning and social work? Sub-questions around contemporary typologies.*
- *Do you feel it is a valuable concept today in the context of community building / repair and resilience?*

- *What shape / output / programme could a settlement house bring to communities today to effect change (broken down into several questions to help the respondents focus on different aspects, of governance, ownership and participation)?*

2.3 Environmental Case Study: Gaelic Ireland

While some engagement was made with academics in the area of Celtic Studies around this case, the majority of research was conducted through literature review.

3. Research Phase: Architectures

3.1. Economic Case Study: São Paulo, Brazil

In December 2018, semi-structured interviews were conducted with residents of two occupations in the city of São Paulo, based around a matrix of questions below. Interviewees were identified through prior connections with architects and researchers in São Paulo. Arrangements were made for the researcher to spend time in each occupation over a period of two weeks. On-site interviews were arranged with the consent of leaders of the occupations, twelve in total. In 9 de Julho, interviewees were in their early twenties (support workers and liaisons) and up to their seventies, while at Ouvidor 63, the interviewees were all under thirty. Interviews lasted from forty minutes to three hours in some cases. For security reasons most of the interviews were recorded in written logbooks.

How does the occupation impact these things?	Quality of Life	Social Justice	Economic Activity
My Life	*My Living Space* *Work / Life Balance* *Indicator:* *Improved for how many people*	*Personal Beliefs* *Indicator: aligned with my beliefs about social justice* *Independence* *Indicator: Able to support myself*	*Economic Independence* *Indicator: Do not receive state aid.* *Creative practice* *Indicator: Enables my creativity*

		Citizenship *Indicator: Enables me to contribute to community*	*Work and Income*
My Family and community	*Our collective home, the occupation* *Indicator:* *For how many families*	*Manifesto* *Indicator: aligned with community needs* *Mission of occupation* *Indicator: aligned with occupants' needs* *Citizenship: Enables stronger links with community*	*Work and Income* *Indicator: enables family life and providing some support to others in the community*
My Neighbourhood	*Safety and security* *Indicator:* *Crime reduction* *Public Spaces* *Indicator: Cleanliness* *Urban realm* *Indicator: usability and sharing*	*Decision Making* *Indicator: enables participation of neighbourhood in decision making* *Neighbourhood Policy* *Indicator: developed according to the local needs* *Housing Policy* *Indicator: enables housing for those in most of need* *Social Enterprise* *Indicator: enables development of social enterprises*	*Local Economy* *Indicator: has positive impact on local economy*

		Social Services *Indicator: supports provision of additional social services*	
My City	*Public Attractiveness* *Indicator: increased number of visitors* *Planning Systems*	*Participation in Planning* *Indicator: enables influencing planning decisions* *Right to the City* *Indicator: aligned with that right* *Housing Policy* *Indicator: reduces pressure on housing* *City Policy* *Indicator: enables influencing city policies*	*City Economy* *Indicator: makes contribution to city's economy* *Inclusive Growth* *Indicator: provides opportunities to incomers to participate in local economy*

3.2 Social Case Study: New Belgrade, Serbia (Former Yugoslavia)

During 2019, a survey questionnaire was circulated to identified academics and used for the purpose of subsequent semi-structured interviews. Over a six-month period, in the early part of the year, the researcher lived in Belgrade as part of an Erasmus exchange with the University of Belgrade. Over this time the researcher made many contacts among academics and social scientists in the region of the former Yugoslavia. This helped to identify selected academics who could fill out the survey questionnaire, and who felt adequately informed to respond. The survey questionnaire was made online with Google Forms, and response recorded electronically. Prior to circulating the survey, the researcher had lengthy conversations with some of the academics about the system, informally This helped in formulating the survey questionnaire.

Networks

- What was the nature of collaboration among stakeholders in relation to spatial planning and housing production in the former Yugoslavia?
- What socially innovative partnerships existed between state actors and community-level organisations at that time?
- Did networks within the Yugoslav construction industry – universities and institutes - influence the development of housing policy?
- What was the impact of 'mjesna zajednica' community councils on neighbourhood planning and housing provision?

Frameworks

- Did the policies of Yugoslav self-management allow citizens to participate in decision-making on spatial planning; housing and neighbourhood organisation?
- What other policies of the period might have encouraged socially innovative approaches to planning?
- What failures in policy or practice led to inequalities in the provision of housing to citizens across the former Yugoslavia?
- What lessons can be learned from the period, and what is the legacy of Yugoslav housing policy?

Architectures

- How did housing and architecture help Yugoslavia achieve goals of social equality and inclusive growth?
- Did high standards in civic design and housing provision impact community resilience in the former Yugoslavia?
- Is there a positive social legacy that remains within socialist housing typologies in the region?
- How has the architecture of this period impacted how citizens in the region today approach the struggle for hosing and spatial rights, if at all?

3.3 Environmental Case Study: Lille, Hauts-de-France

In October 2019, semi-structured (face-to-face) interviews were conducted to understand the themes below. Prior to October 2019, the researcher reached out to members of the association P.A.R.C. Saint-Sauveur (Protection Aménagement Réappropriation Collective) association having learned of the conflicts around development at the site. The researcher was greatly helped by personal and academic colleagues in initiating this dialogue, and with other informants from the local government and architecture profession. Interviews were conducted at locations on or near the site over a week, lasting between one and two hours, and recorded thematically in notebooks.

Architectures

- What stakeholders have been included, invited to participate in decision-making as part of the planning process -TIR, Gehl Masterplan - at various stages?
- What are the rules and procedures that underpin participation and governance?
- What in the new collective narrative has failed to resonate with community stakeholders?
- What has stalled participation and ownership at the community level?
- What could improve participation and ultimately lead to more inclusive planning systems and sustainable, resilient community architecture?

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