

Toward Just Urbanism: Mapping Inhabitants' Experience of (In)justice in Urban Neighbourhoods

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Abstract

'Just Urbanism' refers to approaches that attempt to tackle social injustice and to address the difficulties of living in unjust spaces of contemporary cities affected by uneven development. This thesis argues that just urbanism cannot be achieved without taking into account inhabitants' socio-cultural aspects and their experiences of (in)justice. Therefore, it offers mapping as a method to explore qualities and themes that influence such experiences and to incorporate them in the just development of neighbourhoods and cities.

Gaps in current approaches towards achieving a (more) just city occur as a result of a predominant focus on distributive aspects (quantitative approach) rather than on social aspects, values, qualities and recognition of differences. This research particularly concentrates on the gap in the mapping of injustice and on the digital tools used for this purpose, which often disregard socio-cultural condition of inhabitants. Moreover, there is a disconnect between abstract theories of justice and the everyday situated judgments and design decision that planners, designers and architects have to make.

These gaps can be addressed by concentrating on the relationship between the individual and the collective, their position in society and their everyday experiences of (in)justice in the city. The mapping method used in this research is conceptualised as a platform to bring socio-cultural aspects into the digital mapping of injustice and represents particular qualities and conditions that influence inhabitants' experiences of (in)justice. Therefore, mapping here is both the subject of the research as well as the research method.

To situate the research within a city context, a case study approach (with Sheffield as the case study) and a multi-method approach were adopted. The latter was conducted through three phases of mapping, including Storytelling Map, Map Art, and Mapping Multiplicity, comprising the residents' perspectives from the individual, one-on-one exchange through to the collective collection of data on the city neighbourhood level.

This overall mapping methodology and, in particular, the Mapping Multiplicity platform were put forward as a multi-method mapping approach, one that is more situated in the local context, and, by incorporating local knowledge and recognising individuals, their communities and the diversity of their background, it acknowledges different ways (in)justice is experienced. By doing so, it enables the identification of the particular needs of various communities, whilst providing the spatial context in which they take place. In this way, the proposed mapping method can complement current approaches in order to create a (more) complete picture of (in)justices in the city. Therefore it enables designers, planners and decision makers to make informed decisions that are backed up by thorough research. It also provides citizens with means to create a vision for a just city while being continuously engaged in the process of challenging the status quo and creating and consequently moving toward achieving a more just city.

This thesis builds on the work and theories of a number of scholars. To define justice, poststructuralist and Marxist thinkers such as Iris Marion Young, Nancy Fraser and David Harvey provided the framework. From their viewpoint, the contemporary challenges for justice are manifestations of both

uneven distribution and the misrecognition of social groups, ethnicities, gender inequalities, etc. In moving toward a just city, Susan Fainstein's theory which stresses the importance of three areas – equity, diversity and democracy and Henry Lefebvre's 'right to the city' which entails three rights for inhabitants: the *right to appropriation*, the *right to participation* and the *right to difference*, can represent the way this thesis responds to the question of justice and just city.

In relation to the mapping methods, Denis Wood and Brian Holmes' discourse of "counter-Mapping", a critical method in which mapping is employed to 'dissent' and resist the power of the state, and taking the perspective of the marginalised, has influenced the overall methods of mapping (in)justice in this thesis. Storytelling and Map Art were inspired by performances such as Jake Barton's 'City of Memory', while Mapping Multiplicity is in dialogue with the notion of Rhizome conceptualized by Deleuze and Guattari and practices such as Fernard Deligny's tracings of autistic children, Doina Petrescu's relational maps of communities, groups, devices, and places, as well as Mark Lombardi's Narrative Structures and Bureau d'Etudes' power lines, all of which demonstrate the use of line and relationality in exposing the complex relations among physical, political, economic and social forces.

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Preface

My interest in this research project is both personal and through my education and practice. My background in architecture and as a political activist can provide some context for this project, and it helps to situate myself as a researcher.

I was born in Tehran in the midst of the Iran-Iraq war (1980-88) into a lower middle-class family. The young government went to war shortly after overthrowing the Shah and the country suffered from poor economic conditions long after the end of the war. Most of my childhood during this period was spent in one of the Tehran's decayed areas. I started to work in an architecture and urban design office when I was 16 years old and stayed there until the end of my bachelor's degree. Some of the projects that I was involved in included working in slums and decayed areas of Tehran and Esfahan. Here I was exposed to spatial and economic inequalities and the difficulties of everyday life in deprived conditions and was attempting to address such issues from the perspective of architecture and urban design.

Tehran has been at the forefront of political upheaval during the past 50 years. My family and my parents' friends were activists, opposing the Shah and later perusing their goals for the better future of cities and country. Growing up in such a politically charged environment explains my interest in politics and social sciences. I have realized that very fundamental problems in society, architecture and development have a political and collective solution. Women, ethnic and minority rights, democracy and justice, are at the core of my interest and activist agenda.

During my bachelor and later postgraduate studies I was introduced through lectures and discussions to issues of politics of knowledge, political-economy and urban development, hegemony and control. Coming from an isolated and oppressed country, many of the topics that interest me, such the ones that are discussed in this research, including Marxism, Liberalism and Feminism, were banned or censored. Not being exposed to such arguments and topics in their full extent made the study often more difficult but at the same time more pleasurable since this not only encouraged me to continue on my path but also added to my knowledge and paved the way for well-informed activism.

I started this thesis from a design perspective in order to offer subtle means and approaches for achieving a more just city. For this purpose, I reviewed a wide range of researches and books on just cities. Soon I realized that in order to propose a just city, particularly from a designer's point of view, one must first be able to identify and analyse the issues that produce such unjust conditions. Thus, there is a need to rely on the analysis that has already been carried out by other scholars. However, as is often pointed out in the 1st & 2nd chapter, the approaches toward just city often remain on a theoretical, political and philosophical stage and are too abstract to be applied in the everyday decision making of designers and planners who need situated knowledge for such decision making. Therefore, I have decided to divide my approach toward just urbanism into two different steps. The first, which is conducted in this thesis, focuses on identification, analysis and mapping of experiences of injustice in urban neighbourhoods to provide situated knowledge of the conditions and the ways in which inhabitants experience injustice. In the second steps, subsequent to this thesis, I will

concentrate on the means and methods to achieve a just city and will therefore follow a more propositional approach.

Another field of work that has always interested me was the use of digital and technological methods and their abilities to empower people. Technological means not only are efficient but also enable the inclusion of inhabitants' individuality in the map, which is essential when mapping the different ways in which people with diverse backgrounds experience (in)justice. However, more research in this area showed that mappings of (in)justice are often reduced to distributive factors (income gap, deprivation dimensions, etc.). Current programs used in mapping and planning cities dominantly use GIS as their core principle (e.g. ArcGIS, QGIS, CARTO, etc.), which visualize city objects (often using a planar representation of city and object locations) and data is superimposed on top in different layers. While these programs are useful for the visualisation of physical and quantitative data, they have a gap when it comes to representing socio-cultural conditions.

As is argued in chapter 2 by Young and Fraser, contemporary formulations of justice, dominated by the distributive approach, put more emphasis on the economic distribution of wealth at the core of their policies to address (in)justice. Their positivist stance in the mapping of the city is inclined toward quantitative analysis of economic inequalities and distributive means to address (in)justice while misrecognition and politics of difference were often neglected in the analysis. But even if they are considered, the resulting recommendations and observations remain at a very abstract level and are not necessarily appropriate for everyday use, which represents another gap this research addresses.

The existing gap within digital tools used for mapping injustice, i.e. the neglect of socio-cultural mapping, can result in excluding people's real needs from plans and policies as well as in an incomplete view of unjust conditions. Therefore, I decided to develop the Mapping Multiplicity program which draws on this gap and bridges it by using digital tools to represent social qualities, complexity and heterogeneity, i.e. aspects that arise from the various social backgrounds and reflect the diversity of our societies.

To create a mapping program, it is first necessary to know what aspects and qualities need to be mapped. For this purpose, I designed the research process in three phases. The first two phases, namely Storytelling and Map Art, use qualitative methods to focus on exploring various qualities that the map of phase three should represent and features that it should uphold. This was supported by a literature review on various techniques of mapping social conditions and complexity.

Therefore, the research is a combination of theoretical and digital investigations, which produce a mapping tool with a unique position of attempting to bring the social ((in)justice) into digital mapping through 'Mapping Multiplicity'.

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1 Introduction

“Injustice anywhere is a threat to justice everywhere. We are caught in an inescapable network of mutuality, tied in a single garment of destiny. Whatever affects one directly, affects all indirectly.”

-Martin Luther King Jr. Letter from Birmingham Jail, April 16, 1963

1.1. The research context

This interdisciplinary thesis uses an experimental mapping-focused approach to investigate just city development. By developing a tool which uses digital and computational means to map social, political and spatial conditions, I aim to address the gap that exists today between digital methods and socio-cultural mapping. The Mapping Multiplicity Program developed in this research concentrates on bringing social aspects that influence inhabitants' experience of (in)justice into digital mapping, which so far predominantly focusses on distributive aspects. The research provides situated knowledge on inhabitants and their experiences of injustice in the city neighbourhoods, through which it identifies barriers to a more just city and offers the possibility to explore potential solutions.

Cities, growth and globalization

When looking at the current condition of the world and the places where people live we can see that there is a massive movement of people toward cities and an accelerated increase in the processes of urbanization. While in the 1950s, 30% of the world population lived in cities, by 2014 this number has reached 54% and has been projected to raise up to 70% by 2050, a number that has already been surpassed in Europe and North America where today most people are living in cities (73% and 82% respectively).¹

Globalisation has caused higher mobility around the world and at the same time increased exploitation of natural resources, which accelerated climate change, all of which has pushed people out of their homes in search of a better place to live.² These massive movements of people toward cities are no longer confined within a country but ever more across nations and continents.

Neo-liberalism and its political-economic instability have enabled an unprecedented concentration of wealth in the hands of 1% of the population. From the neo-liberal viewpoint, cities are increasingly considered as a platform for economic growth, where in essence, it is claimed that policies which promote growth result in the greater good for a greater number.³ From this perspective, projects are justified if they increase competitiveness; investment in infrastructures and even the provision of

¹ United Nations, Department of Economic and Social Affairs, and Population Division, *World Urbanization Prospects: The 2014 Revision : Highlights*, 2014, 12–17.

² Frank Nevens et al., 'Urban Transition Labs: Co-Creating Transformative Action for Sustainable Cities', *Journal of Cleaner Production* 50 (July 2013): 111–12, <https://doi.org/10.1016/j.jclepro.2012.12.001>.

³ David Harvey, *Spaces of Global Capitalism* (London ; New York, NY: Verso, 2006), 25–26.

amenities (e.g. cultural facilities and parks) are considered to attract tourists, businesses and increase property values.⁴ The decision on where to locate such investments and facilities is therefore based on their perceived economic value and profit returns instead of their social impacts, which in turn, leads to a disregard of peripheral and deprived neighbourhoods with low economic resources.

The increasing gap between rich and poor and the maldistribution of resources is not only unjust in itself but also has profoundly negative consequences on the society as a whole and corrosive effect on democracy.⁵ For example, since neoliberal globalisation is a force without a face, it provides opportunistic groups to use refugees, immigrants and minorities as a scapegoat for well-founded anxieties caused by such injustices.

As cities are becoming the world we have created to live in, growing inequality and diversity means that people who are living within different parts of the city are living in very different worlds, with significant gaps in quality of life but also different norms and values. Within this context, the struggle to create a just city becomes an important question which has engaged social scientists and philosopher to provide a definition of what is a 'good' or a 'just' city.

Sheffield is an example of a post-industrial city with multicultural demography and increasing inequality. The inequalities that Sheffield has experienced since the late 1960s, and which continue to rise, are features of the same trend that can be seen in other cities across the UK. Sheffield is widely recognized as a city of steel for its roots in steel production, particularly during the 19th century. Sheffield's highest growth rate was from 1851 to 1901 due to the availability of jobs in the industrial sector and steel works. However, the collapse of worldwide demand and particularly neoliberal economic policies led to closures of steelworks and related businesses from the 1980s onward, which caused significant job losses, with unemployment reaching up to 16.2% according to official figures.⁶

During this previous growth rate, major physical expansions took place in Sheffield, with densely terraced houses built close to workplaces in the valleys, accommodating mainly the workforce, and less developed stone-built suburbs being erected in the west. The city continued to expand throughout the 20th century. The city's substantial segregation was shaped mainly by two forms of development that still affect today's housing market. The first is large council developed estates in the form of publicly rented planned neighbourhood centres in the north and south-east. The second is privately owned housing in other areas, particularly in the west.⁷

The geographic formation of Sheffield has played a role in turning the city into one of the most polarised in the UK. The Lower Don Valley (in the east) was designated to industries and the workforce accommodation was located close by in the lower grounds, while the settlements on the west side of the city, which are located on higher grounds, receive winds in their favour and are far away from the factory pollution and closer to the Peak District national park, were developed by (and

⁴ Susan S. Fainstein, *The Just City* (Ithaca: Cornell University Press, 2010), 1–3.

⁵ Noam Chomsky et al., *Requiem for the American Dream: The 10 Principles of Concentration of Wealth & Power* (New York [etc.: Seven Stories Press : sold by: Amazon Digital Services LLC, 2017), 13.

⁶ Thomas Bethan et al., 'A Tale of Two Cities The Sheffield Project' (Social & Spatial Inequalities Research Group Department of Geography The University of Sheffield, 2009), 17, <http://www.shef.ac.uk/sasi>.

⁷ Bethan et al., 18.

for) the factory owners. The development of council housing in the east during the 20th century has intensified this polarisation.⁸

Sheffield is a typical large English city where rising inequalities feed on each other. Gentrification and social residualisation created very different areas, people with similar education level, income and status gathered closer to each other over time. Plans to reduce inequities, although successful in some cases (e.g. health), have been subdued. *"Increasingly people in different parts of Britain, and people living within different quarters of its cities, are living in different worlds [...and it] is likely to remain the case for many years to come in Sheffield, for as long as it remains accepted as what is now normal."*⁹

City and Justice

There are many attempts and a broad spectrum of different philosophical approaches through which scholars have tried to formulate a definition of justice and prescribed an approach to tackle injustice. From the liberal perspective, John Rawls's *A Theory of Justice* returns to the values of liberty and equality. He suggests wealth distribution and an equal right to liberty for all as a way to achieve justice. His approach was then used by Amartya Sen and Martha Nussbaum as a basis to suggest a set of opportunities that each person should be entitled to such as health, life, access to education and control over one's political and material environment. David Harvey¹⁰, who takes a Marxist approach, criticises the liberal approach for disregarding internal contradictions that are the result of capitalist modes of production. He argues that mere redistribution would not achieve a just society. Instead, the fundamental processes that generate inequality (i.e. unequal economic and political power embedded in the capital accumulation) need to be transformed in order to truly achieve a just city.

Both Marxist and liberal approaches were criticized by poststructuralist for their failure to recognize diversity of race, gender and ethnicities as the former tends to unify marginalized in a single category of proletariat and the latter treats individuals as universal and atomistic actors without considering their spatial, social and historical context; both of these approaches assume that justice is only defined by economic interests.

Iris Marion Young is one of the influential figures who criticises the distributive paradigm and points out that there is a need to recognise differences such as gender, race, sexual orientation, ethnicity, religion and culture and the different ways in which people experience injustice. She identifies five forms of oppression, namely exploitation, marginalization, powerlessness, cultural imperialism and violence, which need to be addressed for justice to be achieved. Building on her contribution, Nancy Fraser argues that most contemporary struggles for justice (for example those dealing with race, gender and ethnicity) are manifestations of both maldistribution and misrecognition and need therefore to be addressed from a distributive and a recognition point of view as neither alone would suffice.

⁸ Ian R. Taylor, Karen Evans, and Penny Fraser, *A Tale of Two Cities: Global Change, Local Feeling, and Everyday Life in the North of England: A Study in Manchester and Sheffield*, International Library of Sociology (London ; New York: Routledge, 1996), 36–44.

⁹ Bethan et al., 'A Tale of Two Cities', 16.

¹⁰ Ira Katznelson, 'Social Justice, Liberalism and the City: Considerations on David Harvey, John Rawls and Karl Polanyi', in *The Urbanization of Injustice*, ed. Andy Merrifield and E. Swyngedouw (Washington Square: New York University Press, 1997), 45–64.

On the basis of these philosophical and political approaches, there is a long line of urban planning theories that were developed with a focus on justice in urban policies, one of which was proposed by Henri Lefebvre. He builds his theory on the basis of the Marxist approach and demands for the 'right to the city' which entails three rights for inhabitants: the right to appropriation, the right to participation and the right to difference. For him, a just city can be achieved as the outcome of constant struggle and negotiation among the city's inhabitants (who are defined by a range of identities) aiming at creating a city that meets their complex and manifold needs.¹¹

Susan Fainstein¹² provided a more recent formulation of just city built upon some of the previous approaches. She stresses the importance of three areas, namely equity, diversity and democracy, and combines these with her long-held positions on urban politics, economics and social movements. Her definition of equity, a term she prefers over 'equality', is based on a combination of liberal political theory, Rawl's concept of justice, difference and fairness, and Marxist theory. Her second criterion, diversity is based on feminist criticism of liberal and Marxist arguments and calls for a recognition of 'the other', i.e. social differentiation without exclusion, thereby acknowledging that individuals are shaped by a variety of aspects, including race, ethnicity, gender, religion and culture. The third criterion, democracy, supports greater participation and involvement of citizens in the decision-making process. Fainstein acknowledges that equity, diversity and democracy might sometimes be heterogeneous, in contradiction with each other and cause tensions and admits that these tensions cannot be solved easily, but she states that "*we can start with them as broadly applicable norms and attempt to spell them out as appropriate to particular circumstances.*"¹³

Similar to her predecessors, Fainstein does not provide a precise description with all its specificities of how a just city would look like. Although she puts forward Amsterdam as the strongest candidate, later she moves away from this position due to rising levels of intolerance and fear of difference. Moreover, Novy and Mayer¹⁴ point out that representing a particular city as just exaggerates the circumstances in the city and reduces the local political motivations to push for significant changes. Furthermore, such a model might not be appropriate for other cities with different political, economic and social conditions, and therefore it needs re-appropriation for a particular condition. They also point out that the growing impact of neoliberalism in the Netherlands shows that Amsterdam no longer represents a good model. They suggest that instead of looking for a city as a model there is a need to explore particular conditions under which injustice takes place and to provide specific solutions. Fischer similarly argues that "*one can offer a theory of the Just City, but it cannot be more than one of numerous other contested positions and will be treated as such by those with different preferences. This is to say, it cannot be established once and for all by accepted criteria.*"¹⁵

¹¹ Mark Purcell, 'Excavating Lefebvre: The Right to the City and Its Urban Politics of the Inhabitant', *GeoJournal* 58, no. 2/3 (2002): 103–6, <https://doi.org/10.1023/B:GEJO.0000010829.62237.8f>.

¹² Susan S. Fainstein, 'New Directions in Planning Theory', *Urban Affairs Review* 35, no. 4 (March 2000): 451–78, <https://doi.org/10.1177/107808740003500401>; Susan S. Fainstein, 'Cities and Diversity: Should We Want It? Can We Plan For It?', *Urban Affairs Review* 41, no. 1 (September 2005): 3–19, <https://doi.org/10.1177/1078087405278968>.

¹³ Fainstein, *The Just City*, 54.

¹⁴ Johannes Novy and Margit Mayer, 'As "Just" as It Gets? The European City in the "Just City" Discourse', in *Searching for the Just City: Debates in Urban Theory and Practice*, 1st ed. (Routledge, 2009), 103–19.

¹⁵ Frank Fischer, 'Discursive Planning: Social Justice as Discourse', in *Searching for the Just City: Debates in Urban Theory and Practice*, ed. Peter Marcuse, 1st ed. (Routledge, 2009), 60.

The philosophical and political stances offer significant explanations on the overall definition of justice, or mostly what constitutes injustice and its complexity. Normative formulations of these philosophies offer important insight into what policies and processes can constitute a just city. Nevertheless, neoliberal formulations continue to be the dominant urban development model in many cities and distributive approaches remain the main paradigm to address injustice.¹⁶

Thus, within the discourse of creating a just city, some gaps still remain. As Campbell¹⁷ argues, recent debates on justice in planning have focused on overall policies rather than on values, even though the questions of value are inevitable within the planning activity. This can be seen in an 'idealization' of concepts of justice in popular liberal theory, many of which were never intended to be applied to the type of everyday situated judgements that planners have to make, such as Rawl's deliberations on fairness and Habermas' discourse ethics.

Moreover, Fischer argues that although the planning theories toward justice raise important questions, they are far removed from the task of the practising planner and designer. Fischer points out that these planning theories lack sufficient knowledge to settle the issue they raise and particularities that emerge in everyday circumstances. In return, he proposes a participatory process to explore the specific circumstances that lead to injustice and offers discursive planning as a way to resolve them.¹⁸

In dealing with everyday life problems of (in)justice¹⁹, people from diverse economic and social backgrounds (class, race, ethnicity, religion, gender and so on) experience (in)justices differently. In addition to this, the diverse spatial context (within a city) that individuals live and their experiences take place in also adds to the complexity of how (in)justices are experienced. To tackle such diverse experiences of (in)justice and to provide planning and design solutions, the general policies would not be enough but rather designers and planners require a more situated knowledge and local information. Thus, there is a need to identify and recognise what the particular aspects and qualities are that influence residents' experiences of (in)justice while situating where they take place.

Moreover, as raised by Young and Fraser, many of the contemporary solutions to address the issue of (in)justice are dominated by distributive approaches, which put more emphasis on political and economic formulations to address (in)justice. Their positivist stance in the mapping of the city is inclined toward quantitative analysis of economic inequalities and distributive means to address (in)justice. Within this formulation, the differences among groups are not recognised and minorities and silent groups are often neglected as a result of their quantitative analysis.

One can also argue that the definitions of what constitutes (in)justice and the planning theories that attempt to address (in)justice are always defined from the top down viewpoint of the philosopher, theorist and planner. However, to provide a situated solution, as Fischer and Fraser point out (and in

¹⁶ Paolo Ceccarelli, *Politics. Parties and Urban Movements: Western Europe in Fainstein. NI and Fainstein, SS (Eds.) Urban Policy under Capitalism* (Sage. Beverly Hills, 1982); Margit Mayer, 'The Onward Sweep of Social Capital: Causes and Consequences for Understanding Cities, Communities and Urban Movements', *International Journal of Urban and Regional Research* 27, no. 1 (March 2003): 110–32, <https://doi.org/10.1111/1468-2427.00435>.

¹⁷ Heather Campbell, 'Just Planning: The Art of Situated Ethical Judgment', *Journal of Planning Education and Research* 26, no. 1 (September 2006): 92–106, <https://doi.org/10.1177/0739456X06288090>.

¹⁸ Frank Fischer, *Reframing Public Policy* (Oxford University Press, 2003), 205–8, <https://doi.org/10.1093/019924264X.001.0001>.

¹⁹ When defining justice almost all approaches describe justice in contrast to injustice. Injustice and justice are therefore always defined as a dichotomy; where one exists the other cannot. For this reason, I have decided to write about justice and injustice in the format of '(in)justice' to refer to both conditions, unless I particularly refer to either one of them.

accordance of the feminist stance of this thesis), there is a need for a bottom-up situated knowledge of how (in)justice is experienced by citizens in their everyday life. These policies and theories do not provide the specificities of what qualities and aspects influence inhabitants' experiences of (in)justice and can therefore be complemented with such situated knowledge. These experiences differ depending on geographical location, political and economic conditions, social and cultural values as well as individual experiences.

Digital, social, mapping and city

The development of a mapping tool using technological means has been proposed in this research as a method to provide situated knowledge and information necessary for everyday use of designers and planners.

The use of digital, technological means to map, design and manage cities has accelerated since the 1960s. Today GIS technologies provide a powerful tool for the analysis and visualization of spatial data and have been employed in all planning tasks such as land use zoning, transportation and economic development.²⁰ In these analyses, economic measures and geographical references provide the analyst with a clear view of the location and physical conditions of different areas.

Moreover, developments in Information and Communication Technology (ICT) have opened up the possibility of dealing with the major challenges posed by rapid urbanization, such as power and water supply and waste and traffic management. ICT firms have taken a key role in proposing ways of dealing with these issues. The purpose of making cities more efficient by using technology has led to the notion of 'smart cities'. A city is considered to be 'smart' when "*investments in human and social capital and traditional (transport) and modern (ICT) communication infrastructure fuel sustainable economic growth and a high quality of life, with a wise management of natural resources, through participatory governance.*"²¹

The efficiency of these services and the accuracy of these digital tools are certainly significant for designers and planners to be able to map and accordingly provide a responsive design for a city. However, it is important to recognise that a city is more than just 'hardware'²², a physical body or efficient services – it is also made up of people's physical, social and emotional interactions with their urban environment and other inhabitants, which forms their everyday life experiences. These technologies have been criticised for being used in extremely quantitative ways while missing qualities and values that shape inhabitants' experiences. Thus, there is a need for a solution to reconfigure for example GIS and similar technologies to respond to more bottom-up approaches rather than top-down *instrumentally derived logics*.²³

²⁰ Rina Ghose and William Huxhold, 'The Role of Multi-Scalar GIS-Based Indicators Studies in Formulating Neighborhood Planning Policy', *URISA Journal* 14, no. 2 (2002): 5–17.

²¹ A. Caragliu, C. Del Bo, and P. Nijkamp, 'Smart Cities in Europe', *Serie Research Memoranda* (VU University Amsterdam, Faculty of Economics, Business Administration and Econometrics, 2009), 6, <https://ideas.repec.org/p/vua/wpaper/2009-48.html>.

²² Saskia Sassen, 'Open Source Urbanism', accessed 25 February 2017, <https://www.domusweb.it/en/opinion/2011/06/29/open-source-urbanism.html>.

²³ John Pickles, ed., *Ground Truth: The Social Implications of Geographic Information Systems, Mappings* (New York: Guilford Press, 1995), 25.

From the 1990s onwards, the field of *public participation geographic information systems* (PPGIS)²⁴ has been proposed as a method to include public participation in GIS technology. The overall purpose of PPGIS is to engage the public through the GIS application in order to improve transparency and influence government policy. PPGIS is essentially a framework in which the public is involved in the decision making by integrating local knowledge, thus attempting to contextualize GIS.²⁵

Nonetheless, PPGIS has been criticised for being a tool that justifies decisions with public support rather than being a truly liberating mapmaking process. As Denis Wood puts it, PPGIS and GIS are only replacing old cartography, and in that sense, they are "*intensely hegemonic, hardly public, and anything but participatory.*"²⁶

There is a growing gap between these technologies and the social conditions of inhabitants resulting in maps often not reflecting the quality, diversity and individuality of the inhabitant's condition. For example, GIS and PPGIS methods are criticised since they often grant less legitimacy to local knowledge than to quantitative methods or physical-spatial data. Partly because the experiences and knowledge of individuals involved in the process are inconsistent and vary based on their class, ethnicity, gender and social values. This heterogeneity and multiplicity of knowledge produced through participants' everyday experiences are too ambiguous for purely quantitative input, are often in contradiction with the overall goals envisaged by PPGIS and are therefore very often difficult to realize in practice.²⁷

Moreover, the application of such technologies is seen to be in the context of economic growth and competitiveness in the global knowledge economy, instead of rebalancing of power between the use of information technology by business, government, communities and ordinary people who live in cities.²⁸ Thus concerns with competition and growth are argued to have taken precedence over social, cultural and environmental aspects²⁹. At the same time, a strong mistrust has emerged among city inhabitants in relation to local political institutions, which is connected, among others, with a perceived failure of local planners and politicians to address injustice and quality of life concerns.

Therefore, in view of achieving a more just city, this thesis argues that there is a need to first identify particular qualities and aspects influencing inhabitants' experience of (in)justice and then use technological means to map the different areas in the city where this multitude of qualities and experiences occur. Therefore, within this context, the thesis puts forward a multi-method mapping approach, one that is more situated in the local context, and, by incorporating local knowledge and recognising individuals, their communities and the diversity of their background, it acknowledges different ways (in)justice is experienced. Through this, it enables the identification of the particular needs of various communities, whilst providing the spatial context in which they take place.

²⁴ The term PPGIS is used in 1996 National Center of Geographic Information and Analysis (NCGIA)

²⁵ Renee Sieber, 'Public Participation Geographic Information Systems: A Literature Review and Framework', *Annals of the Association of American Geographers* 96, no. 3 (September 2006): 491–507, <https://doi.org/10.1111/j.1467-8306.2006.00702.x>.

²⁶ Denis Wood, John Fels, and John Krygier, *Rethinking the Power of Maps* (New York: Guilford Press, 2010), 160.

²⁷ Sarah Elwood, 'Negotiating Knowledge Production: The Everyday Inclusions, Exclusions, and Contradictions of Participatory GIS Research*', *The Professional Geographer* 58, no. 2 (May 2006): 197–208, <https://doi.org/10.1111/j.1467-9272.2006.00526.x>.

²⁸ Robert G. Hollands, 'Will the Real Smart City Please Stand up?: Intelligent, Progressive or Entrepreneurial?', *City* 12, no. 3 (December 2008): 303–20, <https://doi.org/10.1080/13604810802479126>.

²⁹ P M McGuirk, 'Situating Communicative Planning Theory: Context, Power, and Knowledge', *Environment and Planning A* 33, no. 2 (February 2001): 195–217, <https://doi.org/10.1068/a33355>.

In this way, the proposed mapping method can address the growing gap between the use of digital tools and qualities and values that reflect the socio-cultural characteristic of inhabitants and complement current distributive approaches and quantitative analyses in order to create a more complete picture of (in)justices in the city. It therefore enables designers, planners and decision makers to make informed decisions that are backed up by thorough research and are more situated in the local context. It also provides citizens with means to create a vision for a just city while being continuously engaged in the process of resisting, creating and consequently moving toward achieving a more just city.

1.2. Research questions and contribution

In searching for a path toward a more just city, the background outlined above points to a gap that needs to be addressed. This gap can be described on two levels. On the one hand, there is a gap within the digital tools used for the mapping of injustice in cities, which often neglect the socio-cultural conditions of inhabitants: the mapping programs use the distributive approach (arguably the predominant paradigm) and attempt to address (in)justice mainly through economic and distributive processes, and often disregard socio-cultural aspects. This approach not only fails to recognise the difference and diversity of experiences that people with different backgrounds endure but also its positivist stance uses quantitative methods, which often results in a disregard for minorities and negligence of marginalised and silent groups. On the other hand, the theories and policies that demand recognition of difference do not provide specificities and situated knowledge that is necessary for the type of everyday judgements that designers and planners have to make.

The lack of a mapping program that can bring specific social aspect into the digital mapping of injustice and the negligence of particular social qualities and aspects that influence inhabitants' experiences of (in)justice result not only in difficulties in incorporating people's real needs into plans and policies but also in a subsequent possibility of unjust development.

This lack of recognition and situated knowledge, located in the context of the just city, and the aim of providing a method to explore and map such information using qualitative and digital means represents the focus of this research. The questions underpinning the research address these gaps:

- How can the perceptions of inhabitants based on experiences of (in)justice in the city be mapped?
- What are the qualities that influence inhabitants' experiences of (in)justice in urban neighbourhoods?
- What kind of a digital tool can facilitate the mapping of these qualities in the wider context of the city?

These questions are addressed by adopting an experimental and multi-method mapping approach. Therefore, mapping in this research was developed both as the subject of the research as well as the research method. This research aligns itself with feminist methodology to investigate the multifaceted and interdisciplinary subject of (in)justice. The feminist standpoint theory that privileges the point of view of marginalised, oppressed and excluded subjects is particularly useful for my research into unjust conditions. To situate the research within a city context, a case study approach (with Sheffield as a case study) and a multi-method approach were adopted. The latter was conducted through three phases of mapping. Phases 1 and 2 contribute by proposing alternative mapping methods that define the qualities and themes that influence inhabitants' experiences of (in)justice in the city. In the 3rd phase, a program was developed and proposed as a tool to map these qualities in the broader scale of the city.

Contribution

The overall mapping process and particularly the Mapping Multiplicity program represents an important aspect of originality of the thesis. Mapping Multiplicity attempts to bring socio-cultural aspects into the digital and technological mapping of (in)justice, which allows looking at the research gap from different angles and provides situated knowledge needed for everyday decision-making, thereby enabling designers, planners and decision-makers to articulate a potential local solution backed up by thorough research.

The methodological and conceptual contributions consist of the experimental nature of the overall mapping method, which combined various viewpoints (from individual to collective) and various methods of enquiry and presentation (from storytelling and art creation for map making to digital and computing methods) in order to create a bricolage of methods and kaleidoscopic view toward (in)justice.

Maps represented in this research emerged from employing methods that put people and their experiences back on the map and enable an individual and communal subjective understanding of the world to be part of the map. A quality that is ever more missing in contemporary practices with a particular positivist approach toward mapping and planning which praises objectivity (often defined from the point of view of power) and quantitative metrics (that cannot include the heterogeneity of diverse viewpoints and the intangibility of individual experiences and often exclude minorities and marginalised).

As a conceptual framework, Storytelling and Map Art on the one hand provide a qualitative approach that acknowledges the subjectivities of people who are involved in the map making process.³⁰ These processes not only gather information and identify qualities but also enable a close connection among participants and the mapper. This close connection enables a better understanding of the conditions of marginalised and excluded subjects and helps one to displace oneself to the other's position. A practice that often is missed in the distant, voyeuristic and top-down view of the mapper, designer and planner.

³⁰ As it will be discussed in chapter 3, feminist objectivity argues that the subjectivity and the partialities of the researcher, mapper or planner must be acknowledged.

The Mapping Multiplicity program on the other hand, uses technological and computational power to illustrate relations among the various social qualities that were explored previously, whilst representing individuals and the collectives that they form based on their subjective values, opinions and responses. By doing so, it attempts to bridge the gap that exists between digital tools and mapping socio-cultural conditions that influence inhabitants' experiences of injustice. It avoids reductions and flattenings that usually occur when using technological methods and recognises diversity and differences in experiences of (in)justice in the city. In this way, the overall mapping process represents an alternative to mainstream mapping methods and complements distributive approaches in order to provide a more complete picture of (in)justice in the city.

1.3. Structure of the thesis

The thesis starts by presenting the theoretical foundation, including a review of relevant literature and practices, on the basis of which the thesis is built on. **Chapter 2** begins by providing a review of key philosophical and political approaches toward justice. This is followed by a review of various urban planning approaches that, based on these political-philosophic standpoints, attempt to identify the conditions under which conscious actions can create a city that is more just for all its citizens.

Chapter 3 sets out the methodological approach that was used for this research. After outlining the methodological influences underpinning the research approach, this chapter offers a detailed description of the research design and the methods used, including information on the case study areas and on mapping as a multi-method enquiry for investigating issues raised in previous chapters. It then concludes with an overview of the research (mapping) phases, which will be discussed in detail in the following three chapters.

Chapter 4 expands on the mapping methods which are used to formulate each phase of mapping. The chapter starts with a critical review of the various ways maps are utilised in the border context and then situates and defines the way they have been used in this research. This is followed by reviews of relevant concepts, practices and ways of doing which were used as the basis for formulating three phases of mapping, namely: storytelling as a method to access internal processes of how individuals experience (in)justice and as a way for one to displace oneself; Map Art as a collaborative mapmaking process that also uses the map artefact as an intermediary tool to trigger collective conversation; technological means and computing power as a way to expand mapping of (in)justice on the wider scale. The Mapping Multiplicity conceptualized in the last phase attempts to complement current digital mapping of (in)justice by including social aspects. It was built on the basis of Deleuze and Guattari's notion of rhizome and line.

Chapter 5 presents the first two exploration phases, which are introduced as a method of mapping the city from the perspective of its residents and of their experience of (in)justice in it, and attempts to address the question 'What are the themes and qualities that influence inhabitants' experiences of (in)justice in urban neighbourhoods?' The chapter starts with explaining the Storytelling mapping procedure as carried out for phase 1 of this research. This is followed by a series of 'stories of

(in)justice' as narrated by Sheffield residents and seen from their point of view. The next section of the chapter focuses on Map Art conducted as phase 2. Map Art is a collaborative, participatory and performative mapping method through which the collective perception of (in)justice in the city is being mapped by building on the themes identified in phase 1. After describing the mapping process, I will present the produced Map Arts as well as the insights from the post-mapping discussions held with the participants, which focused on their responses to the map and the qualities that impact their experience of (in)justice. The discussions and qualities explored in this chapter will inform the creation of the mapping tool in phase 3. The chapter concludes with a summary of the themes and qualities explored in this chapter and a contextualization in the related literature, followed by a reflection on the mapping methods (i.e. phase 1&2) conducted in this chapter.

Chapter 6 puts forward an interactive mapping program called 'Mapping Multiplicity'. This mapping is proposed by building on insights gathered from previous phases of mapping and other practices and concepts (discussed in Chapters 4 & 5). But it also adds to them through developing a tool that can expand the application of these concepts, enabling the mapping of the multiplicity of qualities that influence inhabitants' experience of injustice and therefore attempts to address the question 'What kind of a digital tool can facilitate the mapping of the multiplicity of qualities in the wider context of the city?'

In this chapter, I first expand on some of the precedents, concepts and insights that were gathered in previous chapters and used as the basis to propose and develop the Mapping Multiplicity program. Then I explain different parts and features of the developed program. This section is followed by an example to demonstrate how the relational analysis of Mapping Multiplicity functions by using the data gathered through conducting a survey as an example. The chapter concludes by reflecting on the mapping program, its differences with some of the conventional methods, how it can address some of the gaps in practice and research and outlines the broader implications of the Mapping Multiplicity.

The thesis concludes with **Chapter 7**, which comprises an evaluation and analysis of the research process, its findings and contributions. This chapter revisits the research process and mapping methods to see how they addressed the research questions. It starts with an outline of the main findings that emerged during the mapping processes. This is followed by a section about the methodological and conceptual contributions of the mapping methods and the Mapping Multiplicity program developed as the result of this research. The chapter concludes with suggestions for future developments.

2 Just urbanism - theoretical framework

This chapter provides a review of the relevant literature and the theoretical frameworks, looking at the issue of (in)justice from different angles and at the attempts to define a way towards a just city.

After broadly discussing the context of this research in the introduction, this chapter expands on key philosophical and political approaches toward justice to define the theoretical background for the thesis. This is followed by a review of relevant urban planning theories that, based on these political-philosophic standpoints, attempt to identify the conditions under which conscious actions can create a city that is more just for all its citizens. The chapter concludes by situating mapping experiences of (in)justice as a path to bridge the gap within the current approaches and pave the way toward a just city.

2.1 Philosophical approaches to justice

Developing and defining a concept of justice and justice in the city varies through different geographical, historical and social contexts. There is a broad spectrum of different philosophical approaches through which scholars have tried to formulate a definition of justice and prescribed an approach to tackle injustice. One of the earliest attempts of describing a just city state was made in Plato's *The Republic*, in which he argues that a just state (with justice being an internal quality of the state) is based on the just actions of its citizens (with justice being an external, and in an ideal case also internal, quality of citizens). But while the individual is not subjugated to the state (Plato assumes that their interests coincide), it is subjugated to the *real will*, which is determined by the rulers, who are the only ones that can achieve true knowledge and are therefore the ones who know what is best for the state and the individuals.¹ In the following I will briefly explain three main contemporary formulations of justice (Liberal Approach, Marxist Approach and Politics of Difference, Diversity and Recognition).

Liberal approach

Contemporary definitions of justice are mostly seen to fall under the domain of liberal political philosophy. John Rawls position in his foundational book *A Theory of Justice* is to reconcile the values of liberty and equality. He argues that people can choose principles of justice from behind a "veil of ignorance".² Rawls argues that, when necessary, economic and social inequalities should be distributed to benefit the disadvantaged and that everyone has an equal right to primary liberties.

Basing his concept on liberalism, Amartya Sen³ takes the capabilities approach, where he builds upon the development of the individual with a set of normative assumptions. Instead of describing how

¹ Jerome Neu, 'Plato's Analogy of State and Individual: The Republic and the Organic Theory of the State', *Philosophy* 46, no. 177 (July 1971): 238–54, <https://doi.org/10.1017/S0031819100018994>.

² John Rawls, *A Theory of Justice*, Original ed (Cambridge, Mass: Belknap Press, 2005), 118.

³ Amartya Sen, *The Idea of Justice* (Cambridge, Mass.: Belknap Press of Harvard University Press, 2009), 225–90.

people function, the capability approach is concerned with the opportunities that each person is entitled to. Martha Nussbaum⁴ extends Sen's capabilities approach and provides a specific list of capabilities, including health, life, access to education and control over one's political and material environment. Nussbaum emphasizes that capabilities cannot be alienated or traded off.

The capabilities approach, similar to liberalism that it is founded on, has been criticized for regarding individuals as an abstract, universal and atomistic player separated from their social, historical and spatial particularities. This concept therefore fails to recognise the significance of the situatedness of subjects and the relevance that difference has for people's everyday lives, wants and needs. The approaches of Rawls, Sen and Nussbaum fail to clearly define how their interpretation of justice can be put into practice and what it would mean in everyday situations that people face in their lives, although one might argue that this was never their intention in the first place.⁵

Communicative rationality

From liberal political philosophy emerged another approach to justice that many used as the basis for their attempts to achieve a more just urban form. Communicative rationality, as presented by Jürgen Habermas⁶ and built on the tradition of pragmatism and his own work on the public sphere⁷, emphasises the interconnection of communicative action and social systems and is placed in opposition to 'purposive rationality' or 'means-end rationality'. The focus on discourse and social relations allows for justice to be better understood within the historical and situational context, and, with its orientation towards consensus, is able to guarantee intersubjective validity. Instead of defining just *ends*, communicative rationality accentuates the democratic *processes* that could result in justice. This in turn has contributed to the communicative (or collaborative) planning approach in urban planning. For example, in Patsy Healey's view, the way to achieve a just end is to bring together stakeholders from a variety of backgrounds with initially very different views and to engage them in a discursively democratic process, thereby creating an understanding that all those different views exist in one place.⁸ However, equating this for urban justice has been criticized for several reasons, such as that communicative rationality presumes that all actors are fully aware of their interest, which is not always the case in real life situations.⁹ Others pointed out that the approach does not recognise that a truly *ideal speech situation* (a situation in which there are no barriers that would obstruct the communication between the participants of a discourse) cannot be created in a context characterized by severe political and economic inequality or that just processes do not necessarily result in just ends. Communicative rationality therefore provides a process-oriented theory for the *means*, but lacks a framework for evaluating the results.¹⁰

⁴ Martha Craven Nussbaum, *Creating Capabilities: The Human Development Approach*, 2013, 17–45.

⁵ James Connolly and Justin Steil, 'Introduction: Finding Justice in the City', in *Searching for the Just City: Debates in Urban Theory and Practice*, ed. Peter Marcuse et al., 1st ed. (Routledge, 2009), 3.

⁶ Jürgen Habermas, Thomas MacCarthy, and Jürgen Habermas, *Reason and the Rationalization of Society*, Reprint, *The Theory of Communicative Action*, Jürgen Habermas. Transl. by Thomas MacCarthy; Vol. 1 (Boston: Beacon Press [u.a.], 2007), 273–338.

⁷ Jürgen Habermas and Thomas Burger, *The Structural Transformation of the Public Sphere: An Inquiry into a Category of Bourgeois Society*, reprinted (Cambridge: Polity Press, 2008).

⁸ Patsy Healey, *Collaborative Planning: Shaping Places in Fragmented Societies*, 2. ed, Planning, Environment, Cities (Basingstoke: Palgrave Macmillan, 2006), 95–130.

⁹ Susan S. Fainstein, 'Planning and the Just City', in *Searching for the Just City: Debates in Urban Theory and Practice*, ed. Peter Marcuse and James Connolly, 1st ed. (Routledge, 2009), 27.

¹⁰ Connolly and Steil, 'Introduction: Finding Justice in the City', 3–4.

Marxist approach

Situating political philosophy within an economic and historical context and considering uneven power positions as the source of injustice are central to the Marxist approach. Karl Marx argues that the relations of production - instead of those of distribution or reproduction (as the Rawlsian approach indicates) - are the source of injustice. Theorists who are inspired by Marx emphasize that capitalist modes of production and accumulation repeatedly reproduce inequality. They dismiss the liberal approach to justice as it is hiding *bourgeois* interests.¹¹

David Harvey, in his interpretation of Marx, points out the internal contradictions of capitalism¹², which fundamentally cause inequality and crises; furthermore, he explains how historical forces emerging from these contradictions and the creation of a conscious working class will result in social change that eventually creates just distribution of material goods. In the book *Social Justice and the City*¹³, Harvey identifies uneven development as the basis of a functioning capitalism. Therefore, he argues, to build a just city, the processes that generate unequal spatial development (i.e. unequal economic and political power embedded in the capital accumulation) should be transformed as a priority to solving surface problems (such as urban decay or uneven development). To do this, the dominant social processes need to be challenged and the concepts of rights and social justice, that they are based on, need to be changed.¹⁴ This shift away from focusing on redistributions represents a "move from a predisposition to regard social justice as a matter of eternal justice and morality to regard it as something contingent upon the social processes operating in society as a whole."¹⁵ Harvey has been criticised for his views on liberalism. Although referring to liberalism, he does so by highlighting its limitations, wanting to supersede and replace liberalism, thereby obstructing the possibility of linking his observations with the concerns raised by, for example, Rawls (e.g. how can a liberal order be made more equal).¹⁶

The Marxist approach¹⁷, along with the liberal approach, have been criticized from the postmodernist/poststructuralist standpoint for their failure to recognize diversity, race, gender and ethnicity¹⁸ as former tend to unify marginalized in a single category of *proletariat* and the latter for treating individuals as universal and atomistic actors without considering their spatial, social and historical context, assuming that interests are only defined by people's economic position.¹⁹

¹¹ Peter Marcuse et al., eds., *Searching for the Just City: Debates in Urban Theory and Practice*, 1st ed. (Routledge, 2009), 4.

¹² David Harvey, *Seventeen Contradictions and the End of Capitalism*, 2014.

¹³ David Harvey, *Social Justice and the City* (Athens: University of Georgia Press, 2009), 282–92, <http://site.ebrary.com/id/10405168>.

¹⁴ David Harvey and Cuz Potter, 'The Right to the Just City', in *Searching for the Just City: Debates in Urban Theory and Practice*, ed. Peter Marcuse et al., 1st ed. (Routledge, 2009), 40–51.

¹⁵ Harvey, *Social Justice and the City*, 15.

¹⁶ Ira Katznelson, 'Social Justice, Liberalism and the City: Considerations on David Harvey, John Rawls and Karl Polanyi', in *The Urbanization of Injustice*, ed. Andy Merrifield and E. Swyngedouw (Washington Square: New York University Press, 1997), 45–64.

¹⁷ A similar line of thinking as Harvey can be also seen in: Manuel Castells, *The Urban Question: A Marxist Approach* (London: Arnold, 1977); Manuel Castells, *City, class and power*, 1. ed., repr (London: Macmillan, 1980); Manuel Castells, *The City and the Grassroots: A Cross-Cultural Theory of Urban Social Movements* (London: E. Arnold, 1983); Ira Katznelson, *City Trenches: Urban Politics and the Patterning of Class in the United States* (Chicago: University of Chicago Press, 1982).

¹⁸ Kian Tajbakhsh, *The Promise of the City: Space, Identity, and Politics in Contemporary Social Thought* (Berkeley: University of California Press, 2001), <http://dx.doi.org/10.1525/california/9780520222779.001.0001>.

¹⁹ Susan S. Fainstein, 'Justice, Politics and the Creation of Urban Space', in *The Urbanization of Injustice*, ed. Andy Merrifield and E. Swyngedouw (Washington Square: New York University Press, 1997), 18–44.

Poststructuralist approach: politics of difference, diversity and recognition

The poststructuralist concept of recognizing and embracing social differences such as race, gender, sexual orientation, ethnicity, religion and culture is at the heart of this approach. This standpoint argues that the distributive and political economy approach toward justice is not sufficient but that social groupings and the recognition of discriminated social groups, ethnicities and gender inequalities are necessary in the formulation of social justice. This thesis aligns itself with this approach toward justice.

Iris Marion Young criticizes *the distributive paradigm* and recognizes oppressions embedded in culture such as *cultural imperialism*. From her viewpoint, movements such as feminism, anti-racism, gay and lesbian liberation and their demand for the recognition of difference and rejection of assimilation in a universal cultural norm is central. Young therefore describes five forms of oppression that need to be rectified in order to achieve justice: I. Exploitation II. Marginalization III. Powerlessness IV. Cultural imperialism V. Violence.²⁰ Oppression consists in her view “*in systematic institutional processes which prevent some people from learning and using satisfying and expansive skills in socially recognized settings, or institutional processes which inhibit people’s ability to play and communicate with others or to express their feelings and perspectives on social life in contexts where other can listen.*”²¹

The injustice of exploitation refers to social processes that produce unequal distributions and to the ways in which institutions enable a limited number of people to accumulate wealth while constraining the masses. Therefore, exploitation can only be ended once institutionalised practices and social relations change; a mere redistribution of goods will not be sufficient. Marginalization defined as the exclusion of a group of people (most commonly on grounds of race) from the useful participation in social life, often related to labour, which can cause severe material deprivation.

Marginalization goes beyond distributive injustice; while the provision of welfare might lessen the material deprivation to some extent it also creates new dependencies, thereby limiting rights and freedoms²² and prevents the marginalized from contributing to society in defined ways that are perceived as useful. The injustice of marginalization questions “*the appropriateness of a connection between participation in productive activities of social cooperation, on the one hand, and access to the means of consumption, on the other.*”²³ Young therefore suggest to create socially productive activities outside the traditional wage system to guarantee income and participation in society.

Powerlessness contains in Young’s view three aspects: lack of decision-making power, inability and prevention of developing one’s abilities, and regular experience of disrespectful treatment. Powerlessness is mainly a result of labour division into professionals (those who have power) and non-professionals (those who do not have power). The powerless find themselves in a situation where they have to take orders of those in power and are rarely in a position to make decisions themselves. Additionally, as Young claims, professionals continually develop their skillsets and their capacities, thereby experiencing progress and recognition, something that the non-professionals are denied. Because of their perceived lower status, the powerless are often exposed to disrespectful treatment,

²⁰ Iris Marion Young, *Justice and the Politics of Difference*, Paperback reissue (Princeton, N.J: Princeton University Press, 2011), 39–63.

²¹ Young, 38.

²² Young uses the example of dependent persons’ exclusion from equal citizenship rights; by being dependent on welfare bureaucracies these dependents become subject to the authority of social service providers, who can enforce rules that the marginalized need to comply with as otherwise their welfare benefits might be reduced.

²³ Young, *Justice and the Politics of Difference*, 55.

something that goes beyond the distinction of professionals and non-professionals (women and men of colour are for example often treated disrespectfully at first until it becomes clear that they belong to the professional class). To address this form of oppression a restructuring of the division of labour is necessary.

The three categories of exploitation, marginalization and powerlessness all occur as a result of the social division of labour and thus deal with structural and institutional relations that have an effect on people's material standing, including opportunities for personal development.

Cultural imperialism involves universalising the culture of the dominant group within a society, establishing it as the norm, and in doing so controlling how the people in that society interpret social life and communicate. The injustice of cultural imperialism manifests itself through a lack of recognition by the dominant group of the oppressed cultures' experiences and interpretations of social life, while at the same time the dominant culture imposes its own experiences and interpretations. *"To experience cultural imperialism means to experience how the dominant meanings of a society render the particular perspective of one's own group invisible at the same time as they stereotype one's group and mark it out as the Other."*²⁴ Stereotypes are used to define what the oppressed can and cannot do and be, while simultaneously turning them into one big group of *Others* without any distinct individual identities or features. The answer to this form of oppression is a politics of difference, i.e. a recognition and affirmation of group differences.

Violence as injustice is to be understood as a systemic violence, i.e. it is not the individual acts of wrongdoing that makes violence a subject of social injustice but the social context in which violence is happening. Violence becomes systemic when it happens to members of a certain group for no other reason than being a member of that group. *"Members of some groups live with the knowledge that they must fear random, unprovoked attacks on their persons or property, which have no motive but to damage, humiliate, or destroy the person."*²⁵ While a purely distributive understanding of justice is not suitable to address violence as injustice, Young argues that certain group-directed violence is systemic and enabled or at least tolerated by institutions. Thus, a reform of such institutions and unjust practices, combined with a transformation of existing stereotypes and the distribution of power is needed.

Although Young herself rejects any form of dualism, Nancy Fraser²⁶ argues that Young's merit lies in the combination of theories of distributive justice and identity politics, elements of which can be found throughout her five forms of oppression (exploitation, marginalization and powerlessness are results of economic structures, while cultural imperialism and violence are rooted in cultural structures). Fraser criticises however that Young did not successfully manage to integrate the cultural and economic dimensions, which prevented her from analysing their relations and interdependence, which in turn led to tensions between redistribution and recognition in some of her core conceptions. She further points out that the politics of difference is not universally applicable, as the real difficulty

²⁴ Young, 58.

²⁵ Young, 61.

²⁶ Nancy Fraser, 'Recognition or Redistribution? A Critical Reading of Iris Young's Justice and the Politics of Difference*', *Journal of Political Philosophy* 3, no. 2 (June 1995): 166–80, <https://doi.org/10.1111/j.1467-9760.1995.tb00033.x>.

*"stems from the real tensions and interferences that arise when one tries both to affirm and to abolish differences simultaneously."*²⁷

Following this criticism, Fraser²⁸ herself divides claims for social justice into two main categories. First, the classic political economy approach that seeks to create social justice through *redistribution* of resources and goods. The injustice of 'maldistribution', as she calls it, is a result of economic structures that create a systematic unequal distribution of resources. Second, *politics of recognition* that seek to recognize different social groups. 'Misrecognition' then refers to a systemic subordination based on the status order (i.e. hierarchy) of society, thereby preventing a participation in social life as peers (*parity of participation*).

In Fraser's view, most contemporary struggles for justice (for example those dealing with race, gender and ethnicity) are manifestations of both maldistribution and misrecognition and need therefore be addressed from a distributive and a recognition point of view, which is why she proposes a 'two-dimensional' concept of justice. The normative aspect of this concept centres around *parity of participation*, which in turn encompasses two dimensions: the *objective condition* (related to concerns of distributive justice) calls for participants to be independent and to be heard, which can be achieved through a redistribution of resources. The *intersubjective condition* (related to concerns of recognition) rejects institutionalised hierarchies that prevent participants from being peers in interactions. The claims (and grants) for redistribution and recognition need to be decided on in a democratic process of debate with parity of participation as the standard to be measured against. *"Whether they are demanding redistribution or recognition, claimants must show that the social changes they seek will in fact promote parity of participation."*²⁹ Fraser further argues that Young's undifferentiated and uncritical approach to the politics of difference is not always combinable with her call for a politics of redistribution and that it is thus necessary to identify and support only those politics of difference that further both.³⁰

From a social theory point of view Fraser proposes a *perspectival dualism*, which aims to clarify the sources (and interdependences) of maldistribution and misrecognition and of class and status. Unlike *substantive dualism*, which treats redistribution and recognition as two different aspects of justice that deal with two different spheres of society (i.e. the economic and the cultural sphere), *perspectival dualism* regards redistribution and recognition as analytical perspectives that can analyse any sphere, thereby recognising that redistribution and recognition are connected, highlighting that the economic and cultural sphere permeate each other. *"Treating every practice as simultaneously economic and cultural, albeit not necessarily in equal portions, [a genuinely critical perspective] must assess each of them from two different perspectives. It must assume both the standpoint of distribution and the standpoint of recognition, without reducing either one of these perspectives to the other."*³¹ The justice of cultural value systems and economic structures can therefore always be examined in light of their impact on parity of participation. This approach has advantages over the poststructuralist anti-dualism and over pure economism and culturalism, in that

²⁷ Fraser, 179.

²⁸ Nancy Fraser, 'Social Justice in the Age of Identity Politics: Redistribution, Recognition, Participation', Discussion Papers, Research Unit: Organization and Employment (Social Science Research Center Berlin (WZB), 1998), <https://ideas.repec.org/p/zbw/wzboem/fsig8108.html>.

²⁹ Fraser, 38.

³⁰ Nancy Fraser, 'Social Justice in the Age of Identity Politics: Redistribution, Recognition, and Participation', in *Redistribution or Recognition?: A Political-Philosophical Exchange* (London ; New York: Verso, 2003), 7–109.

³¹ Fraser, 63.

it enables a distinction between distribution and recognition and thus allows for an analysis of their *relations* to one another while at the same time not reducing one category in favour of the other, thereby acknowledging the complexity of their relations. With this, Fraser also addresses one of the criticisms she had for Young, who, in Fraser's view, did not successfully manage to integrate the cultural and economic dimensions and was therefore not able to analyse their relations, which in turn led to redistribution and recognition interfering with each other in some of her core conceptions.³²

In order to achieve justice, any hindrances to parity of participation need to be removed. But how can this be accomplished? Fraser distinguishes two approaches for addressing injustice: affirmative and transformational strategies. Affirmative strategies aim to correct unjust outcomes without changing the underlying social structure, while transformative strategies seek to transform the social structure that cause the inequitable outcomes. Transformative strategies seem to be the more desirable solution but Fraser recognises that they are more difficult to accomplish. Fraser therefore suggests a third option which she calls *nonreformist reforms*. "These would be policies with a double face: on the one hand, they engage people's identities and satisfy some their needs as interpreted within existing frameworks of recognition and distribution; on the other hand, they set in motion a trajectory of change in which more radical reforms become practicable over time."³³ Thus, while working within the current social structure, nonreformist reforms would create a trajectory of change that, through its cumulative effect, would eventually change the underlying structures that caused injustice.

The approaches discussed above provide philosophical and political stances toward the issue of injustice. They offer significant explanations on the overall definition of justice, or mostly what constitutes injustice, and its complexity. In the following some of the concepts for the creation of a just city, which have been influenced by these approaches, will be explored.

2.2 Just urbanism

There is a long line of urban planning theory that suggest a focus on justice in urban policies; from Friedrich Engels³⁴ and Ebenezer Howard³⁵ to Paul Davidoff³⁶ and Norman Krumholz³⁷ and, more recently, Fainstein³⁸ and Campbell³⁹. The red thread linking these works are attempts to identify the conditions under which conscious actions can create a city that is more just for all its citizens and to determine criteria for assessing which outcomes would really be more just, something that especially Fainstein has continually put emphasis on. These approaches focus less on equality and more on

³² Fraser, 63–70.

³³ Fraser, 79.

³⁴ Friedrich Engels, *The housing question* (Moscow: Progress Publishers, 1975).

³⁵ Ebenezer Howard, *To-Morrow: A Peaceful Path to Real Reform*, Digitally pr. version, Cambridge Library Collection (Cambridge: Univ. Press, 2010).

³⁶ Paul Davidoff, 'ADVOCACY AND PLURALISM IN PLANNING', *Journal of the American Institute of Planners* 31, no. 4 (November 1965): 331–38, <https://doi.org/10.1080/01944366508978187>.

³⁷ Norman Krumholz, 'A Retrospective View of Equity Planning Cleveland 1969–1979', *Journal of the American Planning Association* 48, no. 2 (30 June 1982): 163–74, <https://doi.org/10.1080/01944368208976535>.

³⁸ Fainstein, 'Justice, Politics and the Creation of Urban Space'; Susan S. Fainstein, 'New Directions in Planning Theory', *Urban Affairs Review* 35, no. 4 (March 2000): 451–78, <https://doi.org/10.1177/107808740003500401>; Susan S. Fainstein, 'Competitiveness, Cohesion, and Governance: Their Implications for Social Justice', *International Journal of Urban and Regional Research* 25, no. 4 (December 2001): 884–88, <https://doi.org/10.1111/1468-2427.00349>; Susan S. Fainstein, 'Cities and Diversity: Should We Want It? Can We Plan For It?', *Urban Affairs Review* 41, no. 1 (September 2005): 3–19, <https://doi.org/10.1177/1078087405278968>; Fainstein, 'Planning and the Just City'; Susan S. Fainstein, *The Just City* (Ithaca: Cornell University Press, 2010).

³⁹ Heather Campbell, 'Just Planning: The Art of Situated Ethical Judgment', *Journal of Planning Education and Research* 26, no. 1 (September 2006): 92–106, <https://doi.org/10.1177/0739456X06288090>.

justice, thereby enabling the desired outcomes to be formulated both in material (economic redistribution) and non-material (capabilities, opportunities, recognition) terms.

I will explain a number of the approaches that align with the direction and standpoint of this research, thereby situating this thesis and explaining the theoretical foundation that it is built on. By addressing the gaps within these approaches, the research attempts to pave the way toward realising a just city.

One of the influential contributors in this field, influenced by the Marxist approach, is Henri Lefebvre's works on justice and the city (especially his concept of 'the right to the city'⁴⁰), which provide further views on the concept of the 'Just City' and inspired scholars such as Dikeç⁴¹ and Purcell⁴². The 'right to the city' entails three rights for inhabitants: the right to appropriation, the right to participation and the right to difference. For Lefebvre the "*right to the city cannot be conceived of as a simple visiting right or as a return to traditional cities. It can only be formulated as a transformed and renewed right to urban life.*"⁴³ If the city does not deliver what its citizens desire then it must be changed. The right to the city therefore goes beyond simple access rights to what is already there and becomes a right to appropriation; it is the right to change the city, and it is a right for all who live in the city, not only those who own property, thereby going beyond formal, legal citizenship.⁴⁴

*Appropriation [...] would mean a right to a city where workers could make a short commute to work on frequent buses and come home to affordable comfortable housing. It would allow child-care-givers to choose from several nearby parks within walking distance that offered kids spaces that stimulated their imagination. It would mean shoppers visiting a nearby grocery store that offered high-quality, reasonably priced food. It would mean a city without racial and class segregation that reinforced social inequalities. Certainly appropriation demands the right to be present in space, but it also requires the production of spaces that actively foster a dignified and meaningful life. It demands that the city, more than anything else, be for inhabitation.*⁴⁵

For Lefebvre property rights and the production of space based on property owners' needs cause inhabitants to be distanced from urban space, leading to segregation and preventing inhabitants to encounter each other in their daily lives. The struggle is thus about overcoming this distance and for inhabitants to appropriate space in the city. It is a struggle between 'exchange value' and 'use value', calling for the city to no longer be a place for capital accumulation but instead a site that nurtures the needs of those living in the city. Therefore, when demanding their 'right to the city', inhabitants claim urban space as their own.⁴⁶ This is a call to rethink the idea of ownership in general, and ownership of the city in particular: "*the city belongs to those who inhabit it.*"⁴⁷ Inhabitants do not only have a right to already existing urban space, but, more importantly, they have the right to create new space that

⁴⁰ Henri Lefebvre, Eleonore Kofman, and Elizabeth Lebas, *Writings on Cities* (Cambridge, Mass, USA: Blackwell Publishers, 1996), 63–181.

⁴¹ Mustafa Dikeç, 'Justice and the Spatial Imagination', *Environment and Planning A* 33, no. 10 (October 2001): 1785–1805, <https://doi.org/10.1068/a3467>.

⁴² Mark Purcell, 'Citizenship and the Right to the Global City: Reimagining the Capitalist World Order', *International Journal of Urban and Regional Research* 27, no. 3 (September 2003): 564–90, <https://doi.org/10.1111/1468-2427.00467>.

⁴³ Lefebvre, Kofman, and Lebas, *Writings on Cities*, 158.

⁴⁴ Harvey and Potter, 'The Right to the Just City'; Dikeç, Mustafa, 'Justice and the Spatial Imagination', in *Searching for the Just City: Debates in Urban Theory and Practice*, ed. Peter Marcuse et al., 1st ed. (Routledge, 2009), 72–88.

⁴⁵ Mark Purcell, *Recapturing Democracy: Neoliberalization and the Struggle for Alternative Urban Futures* (New York: Routledge, 2008), 95.

⁴⁶ Lefebvre, Kofman, and Lebas, *Writings on Cities*, 129; 174.

⁴⁷ Mark Purcell, 'Possible Worlds: Henri Lefebvre and the Right to the City', *Journal of Urban Affairs* 36, no. 1 (2014): 149, <https://doi.org/10.1111/juaf.12034>.

meets their needs, thereby giving priority to 'use value' over 'exchange value' when making decisions on the production of space.⁴⁸

To make full use of the right to the city, citizens need to actively participate in the politics of their city and management of urban space (the right to 'autogestion' or self-management, which will ultimately make the state obsolete), thereby appropriating the city and making it their own. Therefore, the right to the city becomes an 'enabling' right, a right not only to urban but also to political space, which is continuously redefined through political struggle. It is this political struggle that creates rights as its outcomes, for rights are not God-given or derived from natural law but rather the cause and result of continuous struggle.⁴⁹

It is worth noting here that for Lefebvre there are three types of simultaneously existing spaces: perceived space, conceived space and lived space.⁵⁰ 'Lived space' "is the dominated – and hence passively experienced space which the imagination seeks to change and appropriate."⁵¹ 'Lived space' and social relations are inevitably connected as they enable each other. Thus, producing urban space is not just about material space but also about (re-)producing all aspects of urban life. This triad of spaces lay the groundwork for Edward Soja's 'Thirdspace'⁵², which is the lived space of representation that combines and exists in parallel to the 'Firstspace' (material space) and 'Secondspace' (imaginative representation of space). Soja argues that the spatial dimension has been neglected so far in favour of the social and historic dimensions. Instead, space, history and society need to be seen as triple dialectic that influence each other and that all exist simultaneously.⁵³ Lefebvre used especially the 'lived space' to reject any form of class/ gender/ race/ income reductionism. Human experience and the city have to be perceived as complex combinations of different aspects and cannot be reduced to chart titles or economic values.⁵⁴ While this approach was criticised by Harvey⁵⁵ and Manuel Castells⁵⁶, for whom the city is mainly a result of capitalist modes of production, Purcell explains that Lefebvre attempted to extend the limits of economic approaches and to view citizens and the city as more than class actors and workplace.⁵⁷

This rejection of reductionism and classifications manifests itself in the third right – 'the right to difference'. Lefebvre's 'right to difference' (with difference seen as 'particularity') has to be understood as a right, a possibility, a will to break free from established categories through *differing actions*. The right to be different is "the right not to be classified forcibly into categories which have been determined by the necessarily homogenizing powers."⁵⁸ For Lefebvre It is not enough to use (self-imposed) categories and identities of marginalised groups and to try to develop 'politics of identity'

⁴⁸ Mark Purcell, 'Excavating Lefebvre: The Right to the City and Its Urban Politics of the Inhabitant', *GeoJournal* 58, no. 2/3 (2002): 99–108, <https://doi.org/10.1023/B:GEJO.0000010829.62237.8f>.

⁴⁹ Dikeç, Mustafa, 'Justice and the Spatial Imagination'; Purcell, 'Possible Worlds'; Henri Lefebvre, Neil Brenner, and Stuart Elden, *State, Space, World: Selected Essays* (Minneapolis: University of Minnesota Press, 2009).

⁵⁰ Perceived space is the concrete space people encounter in their daily routines when moving between places for work, home and leisure. Conceived space refers to the mental construction of space as done by scientists, planners, urbanists and to some degree artists. Lived space is a combination of perceived and conceived space, a person's actual, everyday experience of space. Henri Lefebvre, *The production of space* (Oxford, OX, UK; Cambridge, Mass., USA: Blackwell, 1991), 38–39.

⁵¹ Lefebvre, 39.

⁵² Edward W. Soja, *Thirdspace: Journeys to Los Angeles and Other Real-and-Imagined Places* (Cambridge, Mass: Blackwell, 1996), 106.

⁵³ Edward W. Soja, 'Margin/ Alia: Social Justice and the New Cultural Politics', in *The Urbanization of Injustice*, ed. Andy Merrifield and E. Swyngedouw (Washington Square: New York University Press, 1997), 196.

⁵⁴ Henri Lefebvre, *La Pensée Marxiste et La Ville*, 3. éd, Collection 'Synthèses Contemporaines' (Tournai: Casterman, 1978); Henri Lefebvre, 'La révolution urbaine', *Espaces Temps* 49, no. 1 (1992): 181–87, <https://doi.org/10.3406/espat.1992.3846>; Purcell, 'Possible Worlds'.

⁵⁵ Harvey, *Social Justice and the City*, 22–49.

⁵⁶ Castells, *The Urban Question*, 7–64.

⁵⁷ Purcell, 'Possible Worlds', 141–43.

⁵⁸ Henri Lefebvre, *The Survival of Capitalism: Reproduction of the Relations of Production* (London: Allison & Busby, 1976), 35.

based on those differences as Young suggests as this would simply acknowledge the status quo.⁵⁹ Purcell criticises however that Lefebvre mainly talks about the working class when he refers to inhabitants and that “*only the working class can become the agent, the social carrier or support for this [social force].*”⁶⁰ This reduces the inhabitants’ purpose to a fight against the capitalist city, ignoring other fights that they experience in their daily lives (e.g. racism or patriarchy) thereby neglecting the fact that class, race, gender and sexuality are fundamental aspects of inhabiting the city.

*“The struggles of inhabitants against marginalization are struggles against an array of social and spatial structures [...]. The concept of inhabitants is not limited to a single social category – it can incorporate these diverse identities and interests because it is defined by everyday experience in lived space.”*⁶¹

Lefebvre’s ‘right to the city’ puts inhabitants at the centre of the decision-making process regarding the production of urban space. However, as Purcell rightly points out, he does not determine any desirable results and thus the outcomes of this decision-making power might in the end even have a negative impact on the city. The way forward can therefore not be anticipated. Instead it will be the outcome of constant struggle and negotiation among the city’s inhabitants, who are defined by a range of identities, aiming at creating a city that meets their complex and manifold needs.⁶² Others have also recognized the abstraction of ‘the right to the city’ but argue that this lack of concretization allows for the concept to be filled with new meaning, “*reflecting a need to extend benign forms of recognition to all groups residing in the city.*”⁶³

The contemporary debate about urban politics, dominated by neoliberalism, puts more emphasis on questions of “social cohesion, social exclusion and social capital”⁶⁴, i.e. on new liberal formulations of social problems, and less on traditional issues of social justice. Critics of neoliberalism point out that it is not enough to look at the relationship between social and economic conditions, but that spatial implications need to be considered as well.⁶⁵

To understand the correlation between justice, responsibility and the built environment, a number of present-day theorists have described the ‘good’ or ‘just’ city.⁶⁶ Ash Amin, for example, points out the significance of “*an urban ethic imagined as an ever-widening habit of solidarity*”⁶⁷ which is based on the concepts of ‘repair’, ‘relatedness’, ‘rights’ and ‘re-enchantment’, experienced by citizens in their everyday lives. For him, urbanism highlights the challenges of constantly negotiating class, gender, ethnic or racial differences and newness, “*forever forcing responses of varying type and intensity in the face of negotiating strangers, strangeness and continuous change*”⁶⁸, thereby allowing for a continuous

⁵⁹ Dikeç, Mustafa, ‘Justice and the Spatial Imagination’; Purcell, ‘Possible Worlds’.

⁶⁰ Lefebvre, Kofman, and Lebas, *Writings on Cities*, 158.

⁶¹ Purcell, ‘Excavating Lefebvre’, 106.

⁶² Purcell, 103–6.

⁶³ Oren Yiftachel, Ravit Goldhaber, and Roy Nuriel, ‘Urban Justice and Recognition: Affirmation and Hostility in Beer Sheva’, in *Searching for the Just City: Debates in Urban Theory and Practice*, ed. Peter Marcuse et al., 1st ed. (Routledge, 2009), 138.

⁶⁴ Michael Harloe, ‘Social Justice and the City: The New “Liberal Formulation”’, *International Journal of Urban and Regional Research* 25, no. 4 (December 2001): 890, <https://doi.org/10.1111/1468-2427.00350>.

⁶⁵ See for example: Harvey, *Social Justice and the City*; Soja, *Thirdspace*.

⁶⁶ David Harvey, *The Condition of Postmodernity: An Enquiry into the Origins of Cultural Change* (Oxford [England]; Cambridge, Mass., USA: Blackwell, 1992); Harvey, *Social Justice and the City*; Andy Merrifield and E. Swyngedouw, eds., *The Urbanization of Injustice* (Washington Square: New York University Press, 1997).

⁶⁷ Ash Amin, ‘The Good City’, *Urban Studies* 43, no. 5–6 (May 2006): 1009, <https://doi.org/10.1080/00420980600676717>.

⁶⁸ Amin, 1012.

re-evaluation of the 'good' city. For Friedmann⁶⁹ the four pillars of the 'good city' are housing, health care, wages and welfare, thereby focusing on very concrete concerns. And because process and outcome can, in his opinion, not be separated, he also provides his view on good governance and the role of civil society in achieving the realization of these four pillars within the setting of democratic institutions. These ideas of the 'good city' have much in common with the 'Just City' concept as described by Fainstein, especially with regard to widening the sense of solidarity among urban citizens and defining the framework in which city life can be improved.

The importance of bringing together political philosophic and political economic understandings of justice has been highlighted by debates around justice, utopian thought and the 'right to the city'. This approach is followed by Fainstein⁷⁰, who developed a model for urban planners that addresses the social and spatial inequalities that are the outcome of the capitalist machine, thereby providing guidance towards the creation of the 'good city'. Her 'Just City' planning, which is an adaptation of political economic analysis, combines the political economists' viewpoint (with its preference for social equity) with a philosophical view of justice, thereby offering an alternative to both the determinist (i.e. New Urbanism) and process-oriented (as proposed by Habermas' communicative rationality) approaches to urban planning. Unlike Harvey, she acknowledges the capitalist political economy as the framework in which any urban theory has to operate and argues that it is within the current system that we need to seek change, while opposing the dominant neoliberal frame for policy-making.

Fainstein's⁷¹ theory on the analysis of urban justice stresses the importance of three areas – equity, diversity and democracy – and combines these with her long-held positions on urban politics, economics and social movements. Her definition of equity, a term she prefers over 'equality', is one of "*a distribution of both material and nonmaterial benefits derived from public policy that does not favor those who are already better off at the beginning*"⁷² and is based on a combination of liberal political theory, Rawl's concept of justice, difference and fairness, and Marxist theory. Equity calls for redistributive policies and programmes (not only economically redistributive but also politically, socially and spatially), that take cultural diversity, values and historical contexts into consideration when evaluating the potential outcomes, thereby avoiding utilitarian cost–benefit analyses. This is closely linked to her second criterion, diversity.

Fainstein argues that justice cannot only be measured in terms of fair distribution. Instead she picks up feminist criticism of liberal and Marxist arguments and calls for a recognition of 'the other', i.e. social differentiation without exclusion, thereby acknowledging that individuals are shaped by a variety of aspects, including race, ethnicity, gender, religion, and culture, and rejecting liberal and Marxist calls for assimilation and assumptions of homogeneity.

The third criterion, democracy, while supporting greater participation, cautions against the "*faith in the efficacy of open communication that ignores the reality of structural inequality and hierarchies of power*"⁷³, questioning whether citizens are capable of making judgements that benefit the public good, including minorities, when in reality they are confined to existing social relations, institutions,

⁶⁹ John Friedmann, 'The Good City: In Defense of Utopian Thinking', *International Journal of Urban and Regional Research* 24, no. 2 (June 2000): 460–72, <https://doi.org/10.1111/1468-2427.00258>.

⁷⁰ Fainstein, 'New Directions in Planning Theory'; Fainstein, 'Cities and Diversity'.

⁷¹ Fainstein, *The Just City*.

⁷² Fainstein, 36.

⁷³ Fainstein, 30.

and ideologies. For democratic processes to produce just outcomes they need to be derived from situations of equal opportunities. Fainstein also warns that a discursive process alone will not lead to any change if not supported by social movements that have the power to disrupt the status quo.

Fainstein acknowledges that equity, diversity and democracy might sometimes be heterogeneous, in contradiction with each other and cause tensions and admits that these tensions cannot be solved easily, but she states that *"we can start with them as broadly applicable norms and attempt to spell them out as appropriate to particular circumstances"*⁷⁴ Fainstein refers to the capabilities approach of Sen and Nussbaum as a way to devise guidelines and rules for the evaluation of urban policy and give content to the demands of social movements.

However, rather than calling for minimum standards of 'free from oppression' (as Young does) or defining threshold levels of capabilities (as Sen and Nussbaum do), Fainstein *"presses for the maximization of the three values of equity, diversity, and democracy, as expressed in a set of norms by which to direct and evaluate policy"*⁷⁵ and provides a list of suggestions to policy-makers that are likely to increase justice as measured by these three criteria. For it is this lack of concrete proposals by contemporary political philosophers on how to achieve just ends that Fainstein has been criticising. In her vision of a 'Just City', planning and policy outcomes are as important as the processes used to achieve these outcomes, thereby recognising that equity, diversity and democracy on their own do not always necessarily meet the standard of justice.⁷⁶

Although Fainstein's Just City is eventually an attempt to create an overall definition of a just city, it was criticized for seeking, for the most part, to explore the implications of well-established theories for formulating general urban policies instead of providing specific definitions of a just city.⁷⁷ Since her work comes in the form of an eclectic mix of her predecessors' ideas, similar to them, Fainstein does not provide a precise description with all its specificities of what a just city would look like. Although she puts forward Amsterdam as the strongest candidate, later she moves away from this position due to rising levels of intolerance and fear of difference in the city.

In relation to her project, Novy and Mayer⁷⁸ point out that the growing impact of neoliberalism in the Netherlands shows that Amsterdam no longer represents a good model of a just city. They also highlight that representing a particular city as just exaggerates circumstances in the city and reduces the local political motivations to push for significant changes. Furthermore, such model might not be appropriate for other cities with different political, economic and social conditions, and therefore it needs re-appropriation for a particular condition. They suggest that instead of looking for a city as a model there is a need to explore particular conditions under which injustice takes place and to provide specific solutions. Fischer similarly argues that *"one can offer a theory of the Just City, but it cannot be more than one of numerous other contested positions and will be treated as such by those with different preferences. This is to say, it cannot be established once and for all by accepted criteria."*⁷⁹

⁷⁴ Fainstein, 54.

⁷⁵ Fainstein, 166.

⁷⁶ Fainstein, 'Competitiveness, Cohesion, and Governance', 886; Fainstein, 'Planning and the Just City', 28.

⁷⁷ Cuz Potter and Johannes Novy, 'Just City on the Horizon: Summing up, Moving Forward', in *Searching for the Just City: Debates in Urban Theory and Practice*, 1st ed. (Routledge, 2009), 229–39.

⁷⁸ Johannes Novy and Margit Mayer, 'As "Just" as It Gets? The European City in the "Just City" Discourse', in *Searching for the Just City: Debates in Urban Theory and Practice*, 1st ed. (Routledge, 2009), 103–19.

⁷⁹ Frank Fischer, 'Discursive Planning: Social Justice as Discourse', in *Searching for the Just City: Debates in Urban Theory and Practice*, ed. Peter Marcuse, 1st ed. (Routledge, 2009), 60.

Related to this 'Just City' concept are Campbell's⁸⁰ deliberations on justice in urban planning theory. She argues that recent debates on justice in planning have focused on procedures rather than on values, even though the questions of value are inevitable within the planning activity. Campbell points out that there is a disconnect between abstract theories of justice and the everyday situated judgements that planners have to make. This can be seen in an 'idealization' of concepts of justice in popular liberal theory, many of which were never intended to be applied to the type of everyday situated judgements that planners have to make, such as Rawls's deliberations on fairness and Habermas' discourse ethics. Stressing the necessity for a planning that focuses on the relationship between the individual and the collective, she highlights the importance of policy decisions being *"informed by a relational understanding of justice, which explicitly acknowledges the values involved in making such judgements, and which does not presume objectivity nor that decisions will be correct for all time."*⁸¹ In her view, neither universalist (based on Rawls) nor communitarian (based on Habermas) views on justice are sufficient as the former don't recognise difference, thereby failing to critically evaluate social relations of privilege, while the latter pay too much attention to existing social forms that are the source for a division of society on dominating and dominated. A relational understanding of justice therefore reflects the idea that all humans stand in relation to each other and are interdependent on one another.

Moreover, Fischer argues that although the planning theories toward justice raise important questions, these discussions take place in a level of theory that is far removed from the task of the practicing planner and designer; even the policies resulting from these theoretical discussions are still far too abstract to apply to specific conditions of everyday real-world decisions. Fischer then elaborates that the problem of applying the values (which are defined through just city discourse) lies in the difficulty of balancing these various (sometimes heterogenous) values in the city as a whole; instead they should be addressed at the neighbourhood level. This includes for example how and where these different values can be applied in a highly pluralist society with people with diverse class, racial, ethnic, and cultural backgrounds. He then goes further and argues that the just city theories lack specific criteria and sufficient hard knowledge to settle the issue they raise and address the particularities that emerge in everyday circumstances.⁸²

In return he proposes a participatory process to explore the specific circumstances that lead to injustice and offers discursive planning as a way to resolve them. Therefore a democratic process is necessary to recognize the diversity of social values and to situate the particularity of different conditions which people live in. Ultimately only conceptions of social justice that are particular to the local circumstances and that people have agreed to live by can succeed, in short, a critical approach, that involves establishing the connections between the theoretical and the practical.⁸³

⁸⁰ Campbell, 'Just Planning', 100–101.

⁸¹ Campbell, 103.

⁸² Fischer, 'Discursive Planning: Social Justice as Discourse', 66–68.

⁸³ Frank Fischer, *Reframing Public Policy* (Oxford University Press, 2003), 205–8, <https://doi.org/10.1093/019924264X.001.0001>.

2.3 Situating the mapping of (in)justice

The normative formulations of justice discussed above offer important definitions on the theoretical stance and overall policies to achieve a more just city. Nevertheless, neoliberal formulations continue to be the dominant urban development model in many cities and distributive approaches remains the main paradigm to address injustice.⁸⁴

As argued by Young and Fraser, the contemporary formulations, dominated by the distributive approach, put more emphasis on economic distribution of wealth at the core of their policies to address (in)justice. Their positivist stance in the mapping of the city is inclined toward quantitative analysis of economic inequalities and distributive means to address (in)justice while misrecognition and politics of difference were often neglected in the analysis.⁸⁵

Among the approaches discussed above, the poststructuralists offer a more comprehensive formulation that fits within the feminist stance of this research. Thus, my work builds upon the definition described above by Young and complemented by Fraser. Accordingly, I argue that the distributive and political economy approach (as mentioned the predominant paradigm in current urban planning and policy-making) toward justice is not sufficient but that social groupings and the recognition of those discriminated against based on class, race, gender and ethnicity are necessary in the formulation of social justice. Therefore, the contemporary challenges for justice are manifestations of both uneven distribution and misrecognition and thus need to be addressed from a distributive and a recognition point of view.

Furthermore, as Feinsein, Campbell and Fischer also point out, there is a gap between abstract theories of the just city and the everyday situated judgements that architects, urban designers and planners have to make. Although these theories and overall policies raise important questions and offer general guidelines, they do not provide a detailed description of how these universal formulations of justice can be realized or what forms they might take based on various experiences that diverse communities in different city neighbourhoods have in their everyday life.

In dealing with everyday life problems of (in)justice⁸⁶, as discussed above, people from diverse economic and social backgrounds (class, race, ethnicity, religion, gender and so on) experience (in)justices differently— this difference is not just a difference in quantity but also in quality. In addition to this, the diverse spatial context (within a city) that individuals live in also adds to the complexity of how (in)justices are experienced. The need to tackle such diverse experiences of (in)justice cannot be addressed only by universal national policies but rather requires a more situated knowledge of local information to be provided to the designers and planners.

It is within this context that I propose an alternative mapping method, one that is more situated in the local context, which recognises these differences and attempts to complement the distributive approaches. As I will discuss further in Chapters 3 & 4 mapping is a practice that can accommodate

⁸⁴ Paolo Ceccarelli, *Politics. Parties and Urban Movements: Western Europe in Fainstein. Nl and Fainstein, SS (Eds.) Urban Policy under Capitalism* (Sage. Beverly Hills, 1982); Margit Mayer, 'The Onward Sweep of Social Capital: Causes and Consequences for Understanding Cities, Communities and Urban Movements', *International Journal of Urban and Regional Research* 27, no. 1 (March 2003): 110–32, <https://doi.org/10.1111/1468-2427.00435>.

⁸⁵ I will further discuss this in Chapter 4&6, Mapping Multiplicity subsection.

⁸⁶ When defining justice almost all approaches describe justice in contrast to injustice. Injustice and justice are therefore always defined as a dichotomy; where one exists the other cannot. For this reason, I have decided to write about justice and injustice in the format of '(in)justice' to refer to both conditions, unless I particularly refer to either one of them.

the exploration of qualities, aspects and activities that influence inhabitants' experiences of (in)justice whilst situating them in their local context. This property of mapping therefore facilitates the identification of the particular needs of various communities based on residents' experience with the aim of enabling designers, planners and decisionmakers to make informed decisions toward achieving a more just city.

The overall approach (i.e. mapping)⁸⁷ proposed in this research follows a *non-reformist reform* strategy (as proposed by Fraser) which attempts to recognise people's identities and their particular needs within the current framework whilst setting in motion a trajectory of change so that, through its cumulative effect over time, more radical reforms can become practicable. The purpose of mapping therefore is to become a method that can be used within a just urbanism, but also as an alternative and participatory planning process.

One can also argue that the definitions of what constitutes (in)justice and the planning theories that attempt to address (in)justice are always defined from the top-down viewpoint of the philosopher, theorist and planner. From this perspective, social justice is often defined by those in the position of power. Democratic processes, as conceptualised by Habermas and argued by Fischer and Fraser⁸⁸, underline the focus on discourse and social relations that allow for (in)justice to be situated and better understood within the historical and social context, and, with its orientation towards consensus, is able to guarantee intersubjective validity. This approach also aligns with the feminist stance of my work, which privileges the perspective of marginalised and excluded subjects. Therefore, phases 1&2 of the mapping in this research will enable people to define what factors and qualities influence their experiences of (in)justice in the local context of their neighbourhood.⁸⁹ Then, on the basis of the insights gathered, in phase 3 I develop a tool that facilitates the mapping of the multiplicity of these qualities in the larger scale of the city, whilst situating them in their local spatial context.

Mapping in this research is thus a critical practice to conduct research on social, cultural and physical needs. This method questions existing power relations between city planners and residents by challenging expert-led and single-perspective approaches (e.g. focused only on distributive factors) in creating policies to tackle (in)justice and uneven development. It is a mapping that engages inhabitants in the process, that is collective but also recognises individuality, that represents spatial context but also social and political subjectivity of inhabitants, whilst situated in the local setting, and by doing so it enables designers, planners and decision makers to make informed decisions. Thus, it enables inhabitants' engagement in creating and implementing a common vision for a just city.

⁸⁷ The methodology and various mapping methods conducted in this research are further discussed in Chapters 3 & 4.

⁸⁸ Fainstein also emphasises the democratic process; however, she warns that misjudgements can occur due to people's confinement to existing social relations, institutions, and ideologies. Although it can be argued that people who struggle with everyday experiences of (in)justice are often more aware of their needs than designers, planners and decision makers with their distant, voyeuristic and top-down view point, I will nevertheless in this research further contextualise the explored qualities (as will be identified during phases 1 & 2) through relevant architecture, urban design, planning and sociology literature in Chapter 5.

⁸⁹ For further discussion please see methodological approach and mapping methods in Chapter 3.

3 Methodology

This chapter represents the methodological approach that was used for this research. Mapping conducted as a multi-method enquiry was considered useful for investigating issues central to the research questions: themes and qualities shaping residents' experience of (in)justice and the ways in which these challenges the achievement of a more just city; eliciting and representing subjective data by mapping inhabitants' perception of city neighbourhoods and thereby getting a better understanding of how (in)justice influences their perception; and proposing a tool that can further expand mapping of these multi-dimensional and complex qualities of (in)justice in a wider context of the city.

After outlining the methodological influences (i.e. feminist standpoint) underpinning the research approach and positioning the research, the chapter offers a detailed description of the research design and the methods used. It then concludes with an overview of the research (mapping) phases, which will be discussed in detail and carried out in the following three chapters.

3.1 Methodological influences

As previously discussed, the issue of (in)justice is a multifaceted subject that is discussed across various disciplines. Therefore, this research by nature is an interdisciplinary project (involving disciplines such as architecture, urban design, planning and urban sociology) which is also reflected through its eclectic methodological approach. When necessary I will take a cross-disciplinary approach, calling on different bodies of knowledge that refer to experiences outside of planning and architecture.

This research is concerned with both practice and theory, thus often shifting between everyday life and abstract theoretical ideas of injustice and attempting to bridge these viewpoints. These include the conceptual framework described by political and philosophical theorists, architects and planners as well as the everyday life experienced by inhabitants of space, residents, workers and others. What brings these diverse disciplines together is the critical approach of feminism that uses interdisciplinary methodologies while having a critical perspective toward power relations in the production of knowledge. Therefore, I use the feminist theories to position the research and myself.

Positioning the research and the researcher

The feminist theory aligns historically with Hegel's master/slave dialectic and later with Marx' development of the proletariat viewpoint, where Marx argues that the position of marginality and of the oppressed can offer an 'epistemically privileged perspective on society.'¹ However, Marx is

¹ Elizabeth Potter, 'Feminist Epistemology and Philosophy of Science', in *The Blackwell Guide to Feminist Philosophy*, ed. Linda Martín Alcoff and Eva Feder Kittay (Oxford, UK: Blackwell Publishing Ltd, 2008), 235–53, <https://doi.org/10.1002/9780470696132.ch13>.

criticised for reducing society to mere two groups, the proletariat and the bourgeoisie, and not recognising gender, ethnicity and social diversity.

Similar to Marx, the feminist standpoint privileges the viewpoint of the marginalised, oppressed and excluded subjects while taking into account the gender biases rooted in the production of knowledge and power structures, thereby acknowledging that since knowledge is produced from a dominant (male) point of view, its purpose is to address their problems and strengthen their position.²

Understanding and experiencing the position of marginalized and looking for ways in which various groups have been subordinated based on their gender, class and ethnicity has made the feminist approach particularly relevant for my research. Bringing together politics, knowledge, power and mapping (as a form of production of knowledge) in my research, feminist insights provide a vantage point of view and a specific methodology, which questions and critically engages with these respective disciplines. The feminist analysis that I am referring to is transferable to all notions of excluded subjects and so here I borrow the feminist methodology to map (in)justice in the city. In the following I address different strands of the feminist theory.

Situated knowledge

Donna Haraway and Sandra Harding argue that all knowledge is socially constructed and therefore not value free and that neutrality is not possible. Haraway's 'situated knowledge' emphasizes that knowledge must be situated and the partiality of the subject must be acknowledged. She argues that the production of knowledge is affected by the social position of the subject, i.e. the researcher (who produces it), in relation to the subject matter.³

In this way feminist standpoint theory is not only the theory of production of knowledge but also a political strategy because in order to accept knowledge as situated a political stance needs to be taken. Haraway writes that in order to be objective:

"We need to learn in our bodies, endowed with primate colour and stereoscopic vision, how to attach the objective to our theoretical and political scanners in order to name where we are and are not [...] objectivity turns out to be about particular and specific embodiment, and definitely not about the false vision promising transcendence of all limits and responsibility. The moral is simple: only partial perspective promises objective vision."⁴

Haraway questions all Western narratives about objectivity of what is called "*mind and body of distance and responsibility, embedded in the science*"⁵. She calls for feminist objectivity that is not about splitting subject and object but rather about 'limited location' and 'situated knowledge'.

Haraway also acknowledge the vantage point of the subjugated vision. The standpoint of marginalised is preferred because they are less likely to favour the current power structure that

² Sandra G. Harding, ed., *The Feminist Standpoint Theory Reader: Intellectual and Political Controversies* (New York: Routledge, 2004), 35–54.

³ Sandra G. Harding, *Feminism and Methodology: Social Science Issues* (Bloomington, Ind.: Indiana University Press, 1987), 9, <http://www.myilibrary.com?id=207890>.

⁴ Donna Jeanne Haraway, *Simians, Cyborgs, and Women: The Reinvention of Nature* (New York: Routledge, 1991), 190.

⁵ Haraway, 190.

dominates the production of knowledge, since they have less to lose compared with the powerful. However, she warns against romanticizing or appropriating the marginalized vision. She argues that while the vision is better from below, these positionings are not 'innocent' and they are not exempt from critical questioning and decoding⁶.

My own vision as Iranian who lived most of his life in Tehran and studied architecture partly in Iran and partly in the UK should be taken into account for this research.⁷ It is for the 'partiality of vision' that I have chosen cautiously where to locate my case study (Sheffield, UK) which resembles a total displacement from culture, language and politics of space. In this way I also avoid preconceptions and possible biases that might be formed if one knows a place profoundly. Therefore, I create space for Haraway's concept of 'god-trick' that is, the observer sees everything but locates nowhere.⁸

In this research I attempted not to pretend to hide my subjectivity behind 'neutral language'. It becomes apparent in the tone and language used when writing the various chapters. The literature reviews for example are influenced by academic language, with an anonymous voice of authority, while during the mapping processes a language of everyday life influenced by inhabitants is used. To distinguish my own positions from those of the participants I attempted to write in the first person as in this way the subjectivities of the contributors are acknowledged.

In relation to Harding⁹ and Haraway's arguments, by displacing myself I will create mobility in my positioning which enables me to have a critical understanding of the world and myself. My personal experience of being in a subjugated position partly expresses my interest to follow this research topic. While personal experience is essential, I involve others in the process of knowledge production through interviews, performative mapping and collaborative study to see from their perspective.

Nomadic subjects, mobile positioning and interdisciplinarity

Following up on her situated knowledge, Haraway states that 'mobile positioning' is a promising way to stay objective. Sandra Harding emphasizes that acknowledging knowledge as situated means we are unable to experience as others do and we are bound to our partiality. Therefore, to enable a subject (researcher) to experience as others do, it is essential to constantly displace oneself from one's own position to others and to thus have a mobile position. Mobility can create a critical point of view in addition to understanding the position of others.¹⁰

Rosi Braidotti follows Haraway's line of thought, arguing that in order to make a statement you must locate yourself somewhere. She develops a nomadic mode of feminist subjectivity and states nomadism is "*not fluidity without borders but rather an acute awareness of non-fixity of boundaries*"¹¹. She defines the nomad as post-metaphysical entity that functions in a net of interconnections. She

⁶ Haraway, 191.

⁷ In order to situate myself, I explain my standpoint in Preface.

⁸ Haraway god-trick is that in order to be completely objective the observer should see everything from nowhere. The god eye uses all bodily senses and all machine like / modern sensors we have in our disposal in a collective way to produce a whole. She mentions although the view of infinite vision is an illusion it allows: "us to construct a usable, but not an innocent, doctrine of objectivity." in Haraway, *Simians, Cyborgs, and Women*, 189.

⁹ See Harding, *Feminism and Methodology*, 9.

¹⁰ Sandra G. Harding, *Whose Science? Whose Knowledge?: Thinking from Women's Lives* (Ithaca, N.Y.: Cornell University Press, 1991), 138–63.

¹¹ Rosi Braidotti, *Nomadic Subjects: Embodiment and Sexual Difference in Contemporary Feminist Theory*, 2nd ed, Gender and Culture (New York: Columbia University Press, 2011), 36.

describes nomadism firstly as transdisciplinary, meaning a "*crossing of disciplinary boundaries without concern for the vertical distinctions around which they have organized.*"¹²

Being a nomadic subject and applying nomadism is not only about blurring boundaries but it is also a form of additive development or as Braidotti calls it a 'bricolage' of ideas, i.e. bringing together concepts and importing methods from different disciplines and using them in diverse contexts, thus 'becoming a nomad of ideas.'¹³

As I mentioned earlier, I take the interdisciplinary approach as my method, looking at different disciplines and bodies of work such as: Sociology, political economy, philosophy, architecture and urbanism, as well as works of artists, geographers, activists and so forth. Consequently, the research comes together in the form of a bricolage.

Furthermore, I keep the agility to be mobile not only across disciplines and concepts but also in my position as a researcher, taking into account ethnicity, race, class, nationality and so on. For this reason, I change my perspective between marginalized and powerful, counter-mapping and conventional mapping, bottom-up and top-down to create a series of viewpoints from different angles that, when brought together, can create a more complete picture of (in)justice.

Before further explaining the research methods, I will briefly elaborate on other stances that influenced the methodological approach of this research.

First, the overall approach of this research stands opposed to the positivist standpoint in the analysis of the city – arguably the predominant method in current mapping, urban design and planning. It particularly opposes the detached analysis of urban design and cities' inhabitants which presumes that complex and multi-layered social behaviour can be reduced to (quantifiable) mathematical analysis (e.g. space syntax) and be explained by neutral and objective researchers. In fact, one of the purposes of this study (i.e. mapping multiplicity of (in)justice) is to illustrate the complexity and multiplicity of (in)justice that can be interpreted in multiple ways. Thus, it attempts to complement positivist research methods such as surveys or statistical studies (e.g. through questionnaires) by bringing subjectivities and multiplicities of interpretations and dimensions into the process, and in this way Mapping Multiplicity opens up the analyses and connects the lines of this mapping to other analyses and interpretations.

Second, inspired by feminist methodology, the research presented here is concerned with studying residents' experiences and inhabitants' perceptions of (in)justice and how various factors and qualities influence their experiences of the city. Thus, the research (i.e. mapping) intends to elucidate the specifics and identify a phenomenon (in this case (in)justice) through the way these are perceived by the actors experiencing the situation. This approach is also aligned with the social constructivist approach, that recognises the lived reality as constructed through the social interactions of individuals and groups.¹⁴ In this way, information is gathered through inductive, qualitative methods

¹² Braidotti, 36.

¹³ Braidotti, 36–37.

¹⁴ Anthony Giddens and Simon Griffiths, *Sociology*, 5. ed., [fully rev. and updated] (Cambridge, UK: Polity Press, 2006).

(conducted in the exploratory mapping process), namely storytelling, discussions, interviews and participant observation, subsequently representing them from the perspective of the participants.¹⁵

Finally, collaborative Map Art and Storytelling Maps were created through the participation of residents in the mapping process. In this way my research is also aligned with the action research approach that is grounded in a participatory viewpoint and has been described as "*a participatory, democratic process concerned with developing practical knowing in the pursuit of worthwhile human purposes.*"¹⁶ In this manner, it attempts to combine theory and practice, action and reflection through participation with others.¹⁷ It defies the passive, voyeuristic and distant position of the researcher (mapper, designer or planner) and enables them to displace themselves. Participatory methods in contemporary art have become a popular technique for social practice and relational aesthetic has expanded the practice of art to deal with social issues by revealing problems through actions, workshops, art practices, collaboration, protest and so on, where they are also framed as interventions.¹⁸

The diversity of mapping techniques experimented within this research is clearly influenced by the methodological approaches explained above as well as by various mapping practices that will be explained later in Chapter 4.

3.2 Overall research design: a multi-method investigation

Mapping was put forward as the overall method in order to address the gaps identified in the outset of this thesis, a number of issues are key for the development of the mapping method: exploring the themes and qualities (factors) shaping residents' experience of (in)justice and the ways in which these challenge the achievement of a more just city; eliciting and representing subjective data by mapping inhabitants' perception of city neighbourhoods and thereby getting a better understanding of how (in)justice influences their perception; and investigating how these multi-dimensional and complex qualities of (in)justice can be further expanded and mapped in a wider context.

In order to address these issues, the approach that was taken is a combination of case study research (to situate the mapping of (in)justice in a particular local context (Sheffield)) and a multi-method research (that is conducted through mapping), which I will further explain in the remainder of the chapter.

3.2.1 Case study approach

There are many definitions of what a case study research is, how it needs to be conducted and what its value is. In defining case study research, I will point to conventional definitions and knowledge

¹⁵ 'Lester, S. (1999). An Introduction to Phenomenological Research. Taunton: Stan Lester Developments. [Http://www.Sld.Demon.Co.Uk/Resmethy.Pdf](http://www.Sld.Demon.Co.Uk/Resmethy.Pdf) - References - Scientific Research Publish', accessed 9 November 2017, <http://www.ljemail.org/reference/ReferencesPapers.aspx?ReferenceID=1276948>.

¹⁶ Peter Reason and Hilary Bradbury, eds., *The Sage Handbook of Action Research: Participative Inquiry and Practice*, 2nd ed (London ; Thousand Oaks, Calif: SAGE Publications, 2008), 4.

¹⁷ Reason and Bradbury, 4.

¹⁸ Otto von Busch, *Post-Script to Fashion-Able: Or: A Methodological Appendix to Activist Design Research* (Leipzig: Amazon, 2009).

available in the social sciences research. However, many of these conventional beliefs and definitions can be misleading and overgeneralise the matter. Here I explain my own approach inspired by Bent Flyvbjerg's argument on misunderstandings and the advantages of case study research.

Using case study as research methodology provides me with two advantages. First, case study research produces a context-dependent knowledge that is necessary for an exploratory research such as this one. Second, as a young researcher, context-based study assists me in constructing a foundation to develop my knowledge in social sciences. To do research in social sciences it is necessary to learn and use general theoretical standpoints and to make use of them in the research, but it is not limited to this. Compared to context-independent and abstract theories, case study research provides a context that assists me with a bottom up construction of knowledge. It gives me the means to prove, reject and criticize theories and hypothesis. By providing in-depth understanding of the subject, case study research enables the researcher to develop expertise, while allowing a displacement of self that can be reached through constant proximity to the subject of study.

Donald Campbell and Hans Eysenck are among those thinkers who regarded case study as having no scientific value. They viewed focused research on singular isolated objects as incapable of creating general and concrete knowledge.¹⁹ However, later they changed their views; Campbell clarified that although case study is not objective, "*it is all that we have. It is the only route to knowledge—noisy, fallible, and biased though it be.*"²⁰

Lack of hard, all-embracing theory makes it difficult to find proof, and, for that reason, Eysenck who formerly disregarded case study as a concrete research method explains that "*sometimes we simply have to keep our eyes open and look carefully at individual cases—not in the hope of proving anything, but rather in the hope of learning something!*"²¹

On the value of the case study research, Flyvbjerg points to two advantages. Firstly, case study research provides the context-based material that is necessary to improve *rule-based beginners* in research to *virtuoso experts*.²² Secondly, Flyvbjerg argues that in the study of social sciences only context-dependent knowledge exists and that "[p]redictive theories and universals cannot be found in the study of human affairs. Concrete, context-dependent knowledge is, therefore, more valuable than the vain search for predictive theories and universals."²³

Generalizability of case study research is another aspect to consider when developing a research method. Conventional thinking is that it is not possible to generalize on the basis of a single case study. Anthony Giddens²⁴ argues that increasing the size of the case study and randomising it can make the case study more scientifically valuable. Although this point of view is correct as one way of

¹⁹ Donald Thomas Campbell and Julian Cecil Stanley, *Experimental and Quasi-Experimental Designs for Research*, 2. print (Boston: Houghton Mifflin Comp, 1967), 6–7.

²⁰ Donald T. Campbell, 'III. "Degrees of Freedom" and the Case Study', *Comparative Political Studies* 8, no. 2 (1 July 1975): 179–91, <https://doi.org/10.1177/001041407500800204>.

²¹ H. J. Eysenck, ed., *Case Studies in Behaviour Therapy* (London: Routledge and Kegan Paul, 1976), 9.

²² Bent Flyvbjerg and Steven Sampson, *Making Social Science Matter: Why Social Inquiry Fails and How It Can Succeed Again*, 13. printing (Cambridge: Cambridge Univ. Press, 2011), 2–4.

²³ B. Flyvbjerg, 'Five Misunderstandings About Case-Study Research', *Qualitative Inquiry* 12, no. 2 (1 April 2006): 224, <https://doi.org/10.1177/1077800405284363>.

²⁴ Anthony Giddens, *The Constitution of Society: Outline of the Theory of Structuration*, 1. paperback ed (Berkeley: Univ. of California Press, 1986), 328.

conducting research, it is not acceptable to think it is the only possible way but rather it depends on the kind of the problem under investigation and how the case study is chosen.

Karl Popper²⁵ points to falsification as one of the ideal ways that a case study can be used for generalization. Popper used the famous example 'all swans are white' and suggested that if one single black swan was observed it falsifies the proposition and therefore it has general significance. Strategic decision on how to conduct and chose the case study can help to improve its generalizability value. If the thesis proved to be false in the most favourable case then it is most likely false for other intermediate cases.

For example, in a study of 'affluent workers', cases were purposefully chosen as favourable as possible to the thesis. A successful industrial centre (Luton) was chosen, being known for high wages and social stability (which can be the basis for middle-class identity) to discover whether the affluent working class who reached middle-class status was absorbed into society while losing class identity. If this hypothesis could be proven false in the most affluent working-class space then it should be false in other less prosperous ones as well. Through comprehensive fieldwork, researchers found that even in this place a working-class culture remained dominant. And by falsifying the hypothesis, the research showed the tenacity of class identity.²⁶

For the research presented here it is advantageous to use such critical cases with maximum variety to gain information about the significance of various circumstances in experiencing (in)justice. This can be done for example by choosing three or four case studies that are very different in one or two dimensions (in the case of this study deprivation and cultural diversity). To identify critical cases, it is better to look for either most likely or least likely cases. For instance, most and least deprived as well as most and least culturally diverse, to include a maximum variation in experiences of (in)justice.

An example for aforementioned critical case selection is the test for 'lead and feather' to identify whether both fall with equal velocity in a vacuum. This selection of material allows to formulate the generalization that "*If it is valid for this case, it is valid for all (or many) cases. [And in its negative formulation] If it is not valid for this case, then it is not valid for any (or only few) cases*".²⁷

One should also question the value of formal generalization in the production of the knowledge. Thomas Kuhn in the book *The Structure of Scientific Revolutions* has revealed that a wide variety of practical skills are necessary for researchers to produce scientific work.²⁸ Formal generalization is one of the means among many for people to acquire knowledge. Flyvbjerg claims that a "*purely descriptive phenomenological case study can certainly be of value*" in the course of knowledge accumulation and it has frequently lead to scientific innovation. Thus "*formal generalization is overvalued as a source of scientific development, whereas "the force of example" is underestimated.*"²⁹

Another shortcoming, as seen by critics, is the difficulty or even impossibility to formulate and summarize complex and at times contrary narratives of case study research into theories and general propositions. Here also the question remains that if summarizing and generalizing should always be

²⁵ Karl R. Popper, *The Logic of Scientific Discovery*, Repr. 2008 (twice), Routledge Classics (London: Routledge, 2008).

²⁶ John H. Goldthorpe, ed., *The Affluent Worker in the Class Structure*, vol. (1-3), Cambridge Studies in Sociology 3 (Cambridge: Univ. Pr, 1975).

²⁷ Flyvbjerg, 'Five Misunderstandings About Case-Study Research', 230.

²⁸ Thomas S. Kuhn and Ian Hacking, *The Structure of Scientific Revolutions*, Fourth edition (Chicago ; London: The University of Chicago Press, 2012), 10–22.

²⁹ Flyvbjerg, 'Five Misunderstandings About Case-Study Research', 228.

the most desirable outcome in scientific production. When dealing with complex and multifaceted aspects (such as (in)justice), disregard for details (that can be considered as less valuable at the time) or multiplicity of aspects (which are ignored in order to create a neat generalization) can lead to wrong assumptions, a problem which often occurs using quantitative methods or when formulating major social theories.³⁰

The uncertainty and details of real life examples are the value of case study research and as Nietzsche remarks "*one should not wish to divest existence of its rich ambiguity*"³¹. He also talks about "*little things*" which are deceptively insignificant but once thoroughly examined would reveal themselves to contain "*metaphors, paradigms and general significance*".³²

In order to increase the value of the research, Flyvbjerg proposes to do the opposite of closing or summarizing. To ensure openness, he suggest two strategies: the first is to avoid the role of omniscient narrator but to "*tell the story in its diversity, allowing the story to unfold from the many-sided, complex, and sometimes conflicting stories that the actors in the case have told.*"³³ Second, to connect the case to broader interdisciplinary positions rather than one specialized academic theory. This approach leaves the scope of the study open for a wide range of interpretations. In a complex reality there is no single conclusion nor one factor but a series of variants and conclusions. Atomistic analysis of complexity in an isolated condition and avoiding details in order to provide a summary can lead to false understandings and consequently wrong propositions. The goal is not to create an open case study with random outcomes but rather *to allow the study to be different things to different people*. Readers are not directed to one path and, as a result, one truth but they need to find their own truth. Therefore, people with diverse backgrounds can make different conclusions. Such cases cannot be reduced to a few main outcomes but "***the case story is itself the result***".³⁴

Likewise, I will use a narrative case story to explore my findings, because the issue of (in)justice is a multi-disciplinary subject matter interlinked across political economy, sociology and architecture. The narration and visualisation conducted through mapping attempts to represent (in)justice in its diversity and multiplicity without exclusion. In this way I make the mapping and my findings available to all researchers in a way that readers (or users) can draw their own conclusions. I follow this approach as a way of learning as well as a way of not claiming a truth as an objective reality but truth as my subjective understanding while offering the chance for other subjective understandings as there is no 'one' truth. In this connection, it is worth mentioning insights of Nietzsche:

*"He who would learn to fly one day must first learn to stand and walk and run and climb and dance; one cannot fly into flying."*³⁵

³⁰ For example, one of the main criticism of Marx' analysis on class struggles (as formerly mentioned) is the disregard for diversity and gender, putting all working class in the same pot.

³¹ Friedrich Wilhelm Nietzsche et al., *The Gay Science: With a Prelude in German Rhymes and an Appendix of Songs*, Cambridge Texts in the History of Philosophy (Cambridge, U.K. ; New York: Cambridge University Press, 2001), 330–75.

³² Friedrich Wilhelm Nietzsche and Anthony M. Ludovici, *Ecce Homo*, Dover ed (Mineola, N.Y: Dover Publications, 2004), 256.

³³ Flyvbjerg, 'Five Misunderstandings About Case-Study Research', 238.

³⁴ Flyvbjerg, 238.

³⁵ Friedrich Wilhelm Nietzsche, Adrian Del Caro, and Robert B. Pippin, *Thus Spoke Zarathustra: A Book for All and None*, Cambridge Texts in the History of Philosophy (Cambridge ; New York: Cambridge University Press, 2006), 156.

3.2.1.1 Case study

Sheffield has been chosen as the case study for this research. It has an appropriate size that is not bigger than the scope of this research project but complex enough to create comprehensive maps. Post-industrial conditions, multicultural demography and increasing inequality in Sheffield make it a proper candidate for this research.

The inequalities that Sheffield has experienced since the late 1960s, and which continue to rise, are features of the same trend that can be seen in other cities across the country. This makes Sheffield a typical large English city where rising inequalities feed from each other. Gentrification and social residualisation created very different areas, people with similar education level, income and status gathered closer to each other over time. Plans to reduce inequities, although successful in some cases (e.g. health), have been subdued. *"Increasingly people in different parts of Britain, and people living within different quarters of its cities, are living in different worlds with different norms and expectations. [...] and it] is likely to remain the case for many years to come in Sheffield, for as long as it remains accepted as what is now normal."*³⁶

According to Sheffield City Council's report³⁷ inequality has increased in recent years. Figure 3-1 illustrates the change of the index of deprivation between 1999 and 2011. Here we can observe that the top 10% (least deprived) are concentrated in the south west of Sheffield, whilst the bottom 1% of most deprived areas are in the east side, with a tendency to grow. 18 areas in Sheffield are among the 1% of nationally most deprived, and thus, comparatively, the city is now more unequal than in previous years.³⁸ Therefore, Sheffield is a suitable case study when considering the wide range of income and deprivation, demography, population and size for this research project.

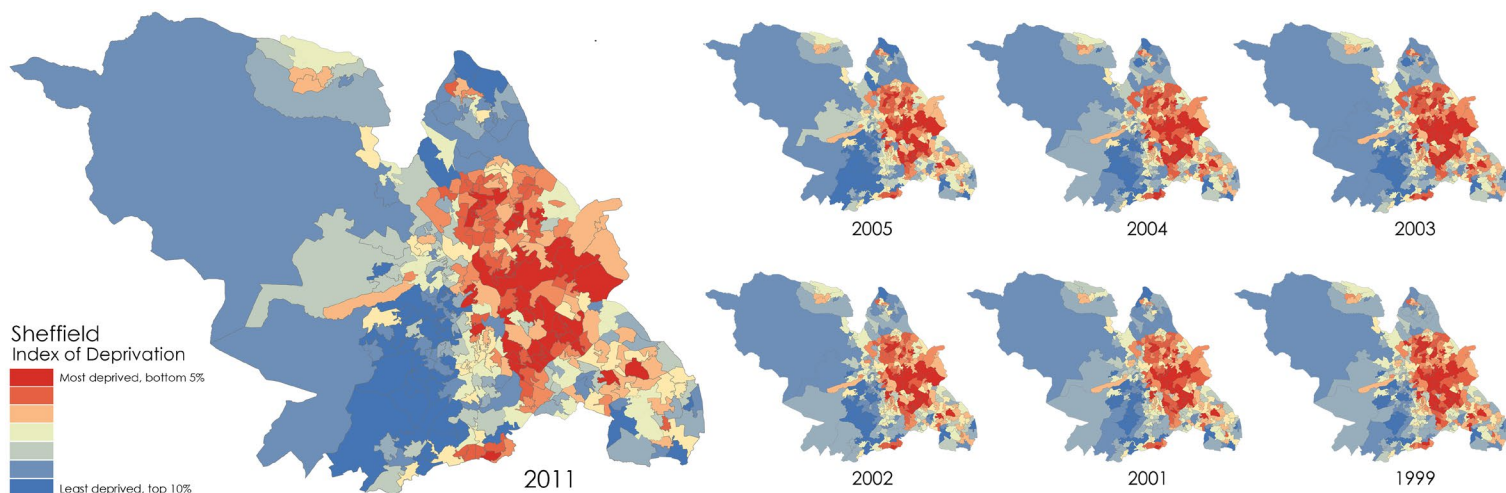


Figure 3-1 Index of deprivation, Sheffield from 1999 to 2011. Data from: Census geography - Office for National Statistics

³⁶ Thomas Bethan et al., 'A Tale of Two Cities The Sheffield Project' (Social & Spatial Inequalities Research Group Department of Geography The University of Sheffield, 2009), 16, <http://www.shef.ac.uk/sasi>.

³⁷ SHEFFIELD CITY COUNCIL, 'ANNUAL EQUALITY REPORT', 2015, <https://www.sheffield.gov.uk/content/dam/sheffield/docs/your-city-council/our-plans,-policies-and-performance/Annual%20Equality%20and%20Fairness%20Report%202015.pdf>.

³⁸ 'Our Equality Duty', accessed 10 November 2017, <https://www.sheffield.gov.uk/content/sheffield/home/your-city-council/our-equality-duty.html>.

Sheffield

Sheffield is a city with a population over 550,000 in the county of South Yorkshire in England. Sheffield is widely recognized as a city of steel for its roots in steel production, particularly during the 19th century. The highest growth rate was from 1851 to 1901 due to the availability of jobs in the industrial sector and steel works. Today's city character was for the most part founded in the Victorian era:

"The central streets were remodelled as a commercial centre, giant new steelworks were erected in the east end, rows upon rows of red-brick, terraced houses were built in the working-class suburbs, and the middle classes retreated to the west, away from the smoke and the grime."³⁹

There was a major clearance of terraces and rehousing in the 20th century. The city centre was rebuilt between 1950 and the 1960s and the Sheffield parkway connection to the M1 motorway improved the city's transportation and connection to the national network. Two universities and a hospital expanded, providing not only regional but also international service.

Sheffield's growth lies mainly in natural resources, which caused heavy industry to fill the valleys of the Don and Sheaf and the old town centre. Moreover, railroad connections to the national network made Sheffield play an important role as a city for heavy manufacturing and steel, particularly in second half of the 20th century.

Due to population and economic growth, major physical expansions took place, with densely terraced houses built close to workplaces in the valleys, accommodating mainly the work force, and less developed stone-built suburbs being erected in the west. The city continued to expand throughout the 20th century. The city's substantial segregation was shaped mainly by two forms of development that still effect today's housing market. The first is large council developed estates in the form of publicly rented planned neighbourhood centres in the north and south east. The second is privately owned housing in other areas, particularly in the west.

The geographical formation of Sheffield has also played a role in turning the city into one of the most polarised in the UK. The Lower Don Valley (in the east) was designated to industries and the workforce accommodation was located close by in the lower grounds, while the settlements on the west side of the city, which are located on higher grounds, receive winds in their favour and are far away from the factory pollution and closer to the Peak District nation park, were developed by (and for) the factory owners. The development of council housing in the east during 20th century has intensified this polarisation.⁴⁰

Today most of the population is in the 20-24 age group. This is caused by the substantial student population due to the two universities. Moreover, there is an increase in the international migration to Sheffield with 14% of the population having an ethnic background.

One main factor influencing poverty in Sheffield was when the worldwide steel demand collapsed and neoliberal economic policies in particular led to closures of steelworks and related businesses from the 1980s onward, which caused major job losses, with unemployment reaching up to 16.2%

³⁹ David Hey, *A History of Sheffield* (Lancaster: Carnegie : [distributor] BookSource, 2010), 147.

⁴⁰ Ian R. Taylor, Karen Evans, and Penny Fraser, *A Tale of Two Cities: Global Change, Local Feeling, and Everyday Life in the North of England: A Study in Manchester and Sheffield*, International Library of Sociology (London ; New York: Routledge, 1996), 36–44.

according to official figures. Some of the first actions taken in response were the redevelopment of the derelict sites of closed manufacturing businesses into a new commercial centre called Meadowhall in the north east with the aim of creating jobs but which in the long run affected shopping in the city centre and resulted in many shops having to close.

Later, the Don Valley Stadium and Arena opened in former steelwork sites and new businesses developed in Don Valley to create a range of creative, cultural, sports and leisure activities. So the *city of steel* would be rebranded as *city of sport*. The inner city rail system "Supertram" is a network developed to connect these areas to the suburbs, promising to bring 80,000 visitors a day into the city.⁴¹ The actions taken had helped to reduce the unemployment but growing inequality, income gaps and uneven development of the city and city infrastructure still remain substantial.

3.2.1.2 Case study areas

For the purpose of this study, three Sheffield neighbourhoods were selected as case study sites. The concept of neighbourhood is challenging to define as there is hardly any consensus on the delineation of neighbourhoods, nonetheless, it is a notion frequently used in research, theory, practice and policy.⁴² There are various boundary settings such as postcodes, districts, wards, output areas (OA), middle/lower layer super output areas(MSOA,LSOA) used in research, administrative works and UK data sets; however, it has diminutive bearing on how residents identify and perceive their locality.⁴³ Since the research considers subjective perceptions of residents on (in)justice and quality of the urban environment and because the neighbourhood is the territory that residents associate as living space and place their everyday life takes place, it is crucial to use the neighbourhood as the scale of the research. Thus, the case study neighbourhoods were outlined based on physical boundaries such as main roads, agglomeration of houses and open spaces, which conform to the residents' subjective definitions of the neighbourhood and community centres.

The extent to which the study sites and the residents living there are representative of a particular urban and social context is important in selecting case study areas. As discussed above, by choosing critical cases with maximum variety it becomes possible to gain information about the significance of diversity of circumstances in experiencing (in)justice. In this way the possibility of particular condition, activities, or experiences intensifies, therefore, it can be generalised that if a phenomenon takes place here, there is a high possibility that similar conditions, experiences or activities are also taking place with medium cases.

To select case study neighbourhoods, socio-economic characteristics were prioritised over physical characteristics of the neighbourhood. Based on the focus of this research and the definition of (in)justice (discussed in Chapter 2) as it occurs in different levels, two dimensions of criteria were used to select the case study sites in Sheffield. First, the distributive dimension that is based on the degree of deprivation⁴⁴ in the neighbourhood. The primary selected neighbourhoods for most deprived

⁴¹ Taylor, Evans, and Fraser, 94.

⁴² George Galster, 'On the Nature of Neighbourhood', *Urban Studies* 38, no. 12 (November 2001): 2111–24, <https://doi.org/10.1080/00420980120087072>.

⁴³ Mike Jenks and Nicola Dempsey, 'Defining the Neighbourhood: *Challenges for Empirical Research*', *Town Planning Review* 78, no. 2 (March 2007): 153–77, <https://doi.org/10.3828/tpr.78.2.4>.

⁴⁴ Deprivation here is measured through four dimensions and a household can comprise of one or more of these dimensions: 1. Employment: where any member of a household (who is not a full-time student) is either unemployed or long-term sick. 2. Education: no person in the household has at least level 2

areas include Parson Cross, Foxhill, Darnall, Highfield and Manor. And least deprived (affluent) include Endcliffe, Dore and Totley.

The second dimension is based on socio-cultural characteristics (according to the politics of recognition view), where the two attributes of ethnic group⁴⁵ and religion⁴⁶ were used to divide the case study areas into two groups, i.e. diverse and multicultural, which applies to Highfield (Sharrow) and homogenous and monocultural, which include Parson Cross and Dore.

Therefore, three areas with distinct characteristics were selected for this case study: Parson Cross with a mainly native homogenous population of white British, ranking in between the top 1% to 5% of most deprived areas. Highfield (London Road) with a diversity of ethnic and minority groups, ranking between the top 1% to 5% of most deprived neighbourhoods. And finally, Dore, which is comprised of a mostly white British population, ranking in the bottom 10% least deprived (affluent) areas.

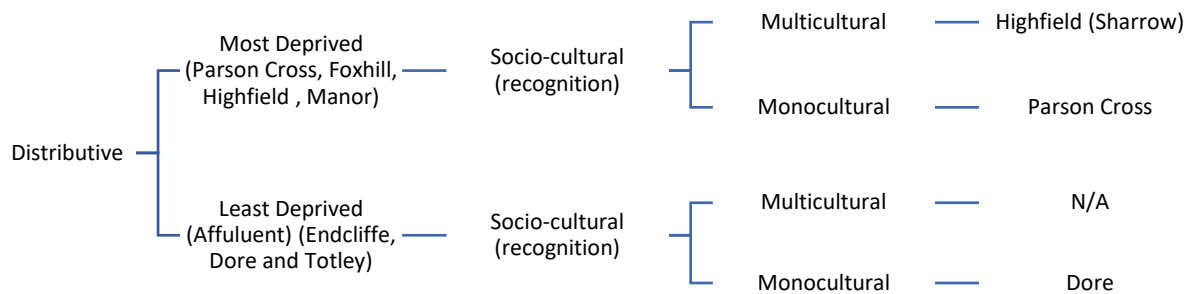


Figure 3-2 Diagram of the selection process of case study areas

One main issue that came up during the selection process was that there was no well-off area that has a large variety of migrants and diverse ethnic backgrounds, although, few ethnically different individuals can be found in economically rich areas. However, their low percentage in the overall population of these areas makes it inaccurate to be call them diverse and multicultural.

Appendix II provides more information on the characteristics of the case study neighbourhoods. This information includes further explanations of the three main case study areas, a table of economic, social and physical characteristics and a complete list of publications, communities, civic organizations and NGOs active in these areas, which was used by this research for the purpose of recruiting participants. Below is a short summary of the key features of these three neighbourhoods.

education and no person aged 16-18 is a full-time student. 3. Health and disability: any person in the household has a general health that is 'bad' or 'very bad' or has a long-term health problem. 4. Housing: the household's accommodation is either overcrowded, with an occupancy rating -1 or less, or is in a shared dwelling, or has no central heating.

A household is classified as being deprived in none, or one to four of these dimensions in any combination. Mimas UK Data Service Census Support, '2011 Geographies: InFuse', text/html, 12 December 2013, <http://infuse.mimas.ac.uk/help/definitions/2011topics/Topics.html#CLSHTD>. Under Open Government Licence.

⁴⁵ Ethnic group classifies people according to their own perceived ethnic group and cultural background. UK Data Service Census Support.

⁴⁶ This is a person's current religion, or if the person does not have a religion, 'no religion'. No determination is made about whether a person was a practicing member of a religion. Unlike other census questions where missing answers are imputed, this question was voluntary, and where no answer was provided the response is categorised as 'not stated'. See: UK Data Service Census Support.

- Parson Cross

Parson Cross is located 8 km north of Sheffield city centre. This neighbourhood was originally a village in the area of Ecclesfield. Ecclesfield was in the West Riding of Yorkshire until 1974, although some parts had been already absorbed into Sheffield since 1901.⁴⁷

Parson Cross is located in the area between the top 1% (most deprived) and top 5% of deprivation. It has faced major changes such as the demolition of council housing and the closure of Parson Cross College. From a demographic point of view most of the population comprises of white British and, according to the 2011 census, mostly Christians or people with no religion.⁴⁸

- Highfield (Sharrow)

Highfield is part of the bigger Sharrow neighbourhood, is located in the south of the city centre and is part of the Sheffield central ward. Highfield is home to a variety of pubs, restaurants, shops, accommodations and libraries. Many of the buildings have been demolished as part of the redevelopment plan to create new retail units and student flats.

Highfield, along with Sharrow and Heeley, has a thoroughly working-class community. In the post-second world war period, when Sheffield's broader deindustrialization led to the closure of many local workshops causing unemployment, most of the population of these areas was affected. Today Sharrow include some middle-class population, however, most of the Highfield residents are among the bottom 1% to 5% of the most deprived nation-wide. Since deindustrialization, Highfield has changed its character from workshops to a multicultural environment due to the arrival of people with a variety of ethnic backgrounds, including Chinese, Afro-Caribbean, Asian (from the Indian subcontinent), Somali and Polish immigrants. London Road especially is known for its multicultural character. The northern end of the London Road includes a considerable Chinese community and in recent years there have been proposals to create a Chinatown in this area.

- Dore

Dore is a small suburban area on the hill above the River Sheaf located in the south west of Sheffield. Up until 1934 it was part of Derbyshire and it was incorporated into the city of Sheffield under the Sheffield Extension Act of 1933. Becoming connected to the railroads in the late 1800's has turned Dore into its present character. Owners and managers of Sheffield factories realized they could live a comfortable luxury life outside the smoke of the city and commute to the city via the newly built Dore and Totley station. Today Dore and Totley have the reputation of being Sheffield's wealthiest suburbs.

Dore is in the top 10% to 20% of least deprived area in Sheffield. In terms of demographics, based on the 2011 census, the majority of the population is white British but it also includes number of Chinese, Indian and Jewish residents. In terms of religion it is mostly populated with Christians and people without religion.

⁴⁷ Sheffield Libraries Archives and information 2013 (v.1.0)

⁴⁸ Office For National Statistics, National Records Of Scotland, and Northern Ireland Statistics And Research Agency, '2011 Census Aggregate Data (Data Downloaded: 1 June 2016)' (UK Data Service, 2016), <https://doi.org/10.5257/census/aggregate-2011-1>.

3.2.2 Mapping as a multi-method investigation

Qualitative and quantitative approaches have long been the subject of debate particularly in social sciences. Eventually, the outcome of these disputes was an eclectic approach of mixing both approaches, thus advantages and disadvantages of each method would enrich and complement each other.⁴⁹ In quantitative approaches a typical strategy is to measure and collect numeric aggregated data about individuals' collective features which are analysed and presented through statistical processes. The main advantage is the width of the information gained through this process; thus, by broadening the research it can represent ways to understand the degree that certain phenomena are represented in a given group and how they vary across cases.⁵⁰ In contrast, qualitative methods provide research with a flexibility to explore social phenomena as well as the context in which they take place in more depth. They allow to study the construction of meanings and people's perceptions of phenomena (in this case the study of (in)justice) and thus this method contributes insights into existing qualities and factors that influence the experiences of people and help to explain human social behaviour and activities.⁵¹ Furthermore, mixed methods can be used to benefit research findings as, for example, through the triangulation of methods it is possible to verify the results and to thus increase the validity of research findings.⁵²

It is also possible to use mixed method terminology when referring to multiple methods taken for a study within a qualitative approach. Studying phenomena (e.g.(in)justice) from everyday life point of view and understanding the context that shapes the experiences of inhabitants often require a multi-level approach that allows for an overarching understanding from multiple angles.⁵³ Multi-level exploration of subjectivities can sometimes be seen as inconsistent since they contain contrasting or multiple viewpoints and do not produce parallel accounts from participants. Nevertheless, as Deniz and Lincoln argue, this multi-layered approach can particularly be beneficial when the research process is not necessarily focused on seeking truth, but rather revealing and exploring experiences and perceptions. Thus, this inconsistency should not be understood negatively, but instead as a strength as each method and every layer can be viewed as offering a new set of interpretation and analysis, whilst at the same time the emotionality and subjectivity of the journey can be explored alongside the process.⁵⁴

For these reasons I have decided to take a multi-method approach in this research which is conducted through the mapping experiments. Thus, mapping has been proposed as a method to conduct the research. It has become the vessel that contains the methodology of enquiry and identifies the experiences of (in)justice in Sheffield. In this way each mapping experiment offers a different approach and each approach offers different perspectives on the everyday life of inhabitants and their experiences of (in)justice in the city. First, the mapping starts with the individual perspective through personal stories, memories and experiences that shaped these stories. This level allows to explore and identify general themes and qualities that impact experiences of (in)justice in Sheffield. This phase is then followed by a collective mapping experiment under the name 'Map Art'. In this level the personal perspectives give their place to a group, multi-angle view. Collaborative map art enables

⁴⁹ Robert K. Yin, *Qualitative Research from Start to Finish* (New York: Guilford Press, 2011), 287.

⁵⁰ Yin, 282.

⁵¹ Yin, 7–8.

⁵² David Silverman, *Doing Qualitative Research: A Practical Handbook*, 2nd ed (London ; Thousand Oaks, Calif: Sage Publications, 2005), 136.

⁵³ Yin, *Qualitative Research from Start to Finish*, 291.

⁵⁴ Norman K. Denzin and Yvonna S. Lincoln, eds., *The Sage Handbook of Qualitative Research*, 4th ed (Thousand Oaks: Sage, 2011), 387–90.

the collective production of maps and group discussions over the themes and qualities that were explored through the previous method. This level allows further in-depth discussion and exploration of these aspects (qualities) through obtaining contrasting viewpoints that often arise due to the diverse social, political and cultural values of participants or by re-confirming what has been discussed in the previous experiment.

These two phases are aimed at exploring the context of (in)justices in the city and at experimenting with ways to elicit and represent subjectivity of city inhabitants' experiences of (in)justice, resulting in the creation of a list of qualities (factors). These qualities then inform a tool that is used in the third phase for broadening the research to map multiplicities of (in)justice. By bringing together various dimensions and qualities that influence inhabitants' experiences, the third phase attempts to bring subjectivities and multiplicities of interpretation and dimensions into the mapping process. Here every quality can be linked to the other and the tool can illustrate the relations between this multitude of qualities. In this way this tool opens up the lines of this mapping rather than closing it and allows for various subjectivities (of mappers, researchers, designers and planners) to create interpretations and through it complementing often limited quantitative processes. These mapping methods were proposed and further explained through various precedents and concepts in the next chapter.

This overall mapping approach represents an important aspect of originality of this thesis by enabling designers, researchers and planners to map (in)justices situated in the local context and, based on the subjectivity of inhabitants in the city, in turn, enabling them to articulate a potential local solution backed up by research.

3.3 Outline of the research phases

As mentioned earlier, the research was planned to be conducted in different phases through a multi-level approach to explore inhabitants' experience of (in)justice in the city. In every phase of the research the city was mapped through a participatory process, which acknowledges that for the mapping of (in)justice the subjective viewpoint of residents should be considered.

Furthermore, every one of these phases can be viewed as an artefact that not only allows for identifying the qualities, themes and aspects but also a continuous pedagogical process of awareness-raising and learning, not only for the researcher but also for the participants.

The method of mapping widens in each level based on insights gathered in the previous phase, moving from individual/personal to group and collective perspective. Therefore, each phase of the mapping would contribute to a process of creating a more complete picture of how (in)justice is perceived and experienced by inhabitants of the city.

Each phase of the research was conducted as a mapping that was formulated through an extensive research and review of related precedents, concept and literature, all of which was later discussed in Chapter 4. Here I briefly describe technical detail of each phase i.e. the size of enquiry, recruitment process and outcomes. Their results as well as further explanations of the mapping method are presented in Chapters 4,5 and 6.

Phase 1

The principal research aim at this phase was to map (in)justices as experienced and perceived by people and to identify themes, aspects and qualities that influence inhabitants' experiences of (in)justice. It was deemed beneficial to start the mapping process through a flexible stage that enables the participants to express themselves freely, be at ease to think about their memories (positive or negative) and indicate what aspects have influenced their experiences of (in)justice in Sheffield.

Storytelling, open ended Interviews

The project starts with open-ended discussions that were carried out through the Storytelling process. This offers participants the openness to discuss all the aspects that influence their experiences of (in)justice through telling their story and only occasionally the participant was asked for more clarification and elaboration of some of the aspects, so as to steer the conversation to the theme of the study in case of divergence. This method provides a very rich source of information to explore aspect and factors that influence participants experiences. ⁵⁵

In general, it is argued that people think narratively. ⁵⁶ Storytelling provides a strong framework in which participants are asked to revisit their memory and experiences, organise them and communicate them in a meaningful way. ⁵⁷ Thus, organising the open-ended interviews in this way can provide useful insight into themes and factors influencing the experiences of inhabitants and to thus map (in)justices experienced in the city from the point of view of the inhabitants.

Recruitment

For the first step, I have created an A1 board, asking city inhabitants to "tell me your Sheffield story." I took this board to various parts of the Sheffield city centre, namely the Moor Street, Fargate and Peace Gardens, to absorb random participant, but, also in order to increase the maximum variation (as mentioned in methodology above), I also took the board to the central hubs of each case study neighbourhood, i.e. Highfield Square (Highfield), Margetson Cres (Parson Cross) and Hight St (Dore).

This way of recruitment allows for a non-intrusive invitation of participate. In this way I intended to make participants curious and attract eager contributors to join the process (without imposing participation which often occurs in the city centre by volunteers attempting to recruit donors for charity, advertisement or market research). Story telling allows for the conversation to be as open as possible, thus encouraging people to talk. Moreover, I conducted this method in the summer when the weather was more convenient and more people came to the city for pleasure purposes, thereby increasing the potential eagerness to participate in the mapping.

An ethical approval was received from the university for conducting this research. Participants often asked about the purpose of this practice and some of the participant were seemed worried about how the information will be used. This issue was addressed by briefing participants about the purpose of the research and providing them with the information sheet. In addition, to create a safe environment

⁵⁵ Rob Kitchin and Nicholas J. Tate, *Conducting Research in Human Geography: Theory, Methodology and Practice*, First issued in hardback (London New York: Routledge, 2014), 211–14.

⁵⁶ Karl E. Weick, *Sensemaking in Organizations*, Foundations for Organizational Science (Thousand Oaks: Sage Publications, 1995), 127.

⁵⁷ Leonard Webster and Patricie Mertova, *Using Narrative Inquiry as a Research Method: An Introduction to Using Critical Event Narrative Analysis in Research on Learning and Teaching* (London ; New York: Routledge, 2007), 3.

and putting participants at ease to truly express themselves, I decided not to record the conversations but rather take notes during the interviews.

Outcome

Participant provided me with stories of their life. Each conversation typically lasted between 15 to 45 minutes. The flexible format of storytelling and the open-ended questions (see Appendix III for the list of questions) and conversations in this phase allows for an exploration of general themes and some of the outlining factors that influence the experience of (in)justice in Sheffield. The themes and qualities that were explored in this phase can then be used for further group discussions and concentration on each of these discovered themes in the next phase.

This phase mapped the experiences of injustice from an individual and personal viewpoint of inhabitants. It also allowed for a displacement of the self of the mapper/ designer/ planner thus having their egos in check without trying to diagnose, define and identify what (in)justice is and what factors effect it but rather to identify it from the viewpoint of the people who are actually experiencing it in their daily life.

Phase 2

While in phase 1 Storytelling allows to map the experiences from an individual point of view, the collective Map Art approach brings multiple angles of group and collective perceptions to the research. The collaborative approach of Map Art is used for two purposes. First to experiment ways of eliciting and representing subjective data, i.e. how experience of (in)justice influence inhabitants' perception of different areas in the city. Second to use it as a medium for creating discussions over the map and among people over the themes discovered previously.

Collective approach, group discussions

A group discussion is a useful supplement to one-on-one interviews. By concentrating the discussion on one theme for each mapping practice, it is possible to further open the topic and explore other factors that might have been missed previously. The dynamics of a collective approach can bring out feelings and experiences that might not have been articulated in a one-on-one interview, inhabitants may feel more likely to express grievances and injustices in a group as they feel 'safer' within a collective environment.⁵⁸ This platform also provides a chance to express contrasting opinions and experiences within the same topic, and thus a collective approach can produce multiple perspectives compared with one-on-one interviews, thereby expanding the information gathered concerning the same issue.⁵⁹

Art and collective production of art were used as alternative methods of conducting qualitative research. Art has the capability to attract and communicate with diverse groups of people and, through conversations that take place during its collective production, it can be used as a method of mapping and sociological analysis.⁶⁰ The collective approach experiment was conducted through a map-making process introduced here as Map Art. These maps represent the way inhabitants perceive

⁵⁸ Kitchin and Tate, *Conducting Research in Human Geography*, 215.

⁵⁹ Kitchin and Tate, 215.

⁶⁰ Howard S. Becker, 'Art As Collective Action', *American Sociological Review* 39, no. 6 (1974): 767–76, <https://doi.org/10.2307/2094151>; J. Gary Knowles and Ardra L. Cole, *Handbook of the Arts in Qualitative Research: Perspectives, Methodologies, Examples, and Issues* (Los Angeles: Sage Publications, 2008).

different areas of the city (Sheffield) through each of the themes that were discovered in phase 1. The conversations take place around this map, and thus, the map as an object not only helps with eliciting and representing subjective data but also acts as a medium to attract participants and trigger conversations about experiences of (in)justice in Sheffield.

A number of questions were prepared for the main themes to keep the conversation flowing, trying to have everybody involved and focused on the topic of the conversation (see Appendix IV for a list of questions). These questions adapted or additional questions were asked ad-hoc depending on the situation and the answers given by the interviewee.⁶¹

The experiments were carried out during the summer because of the favourable weather. Each mapping experiment lasted a whole day, i.e. from 9 AM to 6 PM. During this time various groups contributed to the mapping and the conversation. Each person's contribution lasted typically between 15 to 90 Minutes. The project was open for everybody to enter and exit as they desired, so as to increase the participation and comfort. Thus, some interviewees stayed longer and had discussions with more than one group gathering, while others were satisfied with participating in the map making through short comments.

Recruitment process

A shop in a busy street in city centre (Union Street) with high level of foot fall was chosen for the location. This is a neutral place visited by many residents from different class, gender, ethnicity and backgrounds. In this way any resident was able to participate in the process. The choice of collective map making particularly through the colourful process of art creation attracted many passers-by to the map. Although not all people were actively engaged, many participants first stopped to observe and then eventually started to be engaged or make a comment themselves.

To increase the diversity and inclusivity of people from all different backgrounds and ensure the mapping of the case study neighbourhoods, an invitation was sent to the community centres, forums and ethnic communities of the three case study areas (Highfield (Sharrow), Parson Cross and Dore) the list of which was provided in Appendix II. Additionally, an invitation poster including an information/invitation sheet inviting potential participants to the map making and the discussions were posted on notice boards of communities/forums, supermarkets and coffee shops in the case study neighbourhoods.

Outcome

Phase 2 produced two outcomes. One is the Map Art artefacts that each represents the way residents perceive (in)justice in different areas of the city. The other is the interviews and discussions that took place around the map making process, i.e. the mapping of experience of (in)justice through the multiple angles that participants brought to the conversation. Through these discussions a list of themes and qualities that outlines them were explored. These qualities were then further contextualised and complemented by reviewing architecture, urban design and urban sociology literature to conclude a thorough list of qualities that should be considered when mapping (in)justice in the city in the context of Sheffield. The resulted themes and comprising qualities were then used to create a questionnaire which produced the data to be used in the third phase.

⁶¹ Yin, *Qualitative Research from Start to Finish*, 140–42.

Phase3

Phase 1 & 2 were aimed at the exploration of the context in which (in)justices were experienced in the city, while experimenting with the means to elicit and represent the subjectivity of residents' experiences of (in)justice. One outcome of these phases was a list of themes and qualities that emerged through the mappings and discussions.

As mentioned, each phase brought a different perspective to the research by widening the scale of the mapping, starting from individual to group and collective approaches. In that respect, for the third phase, a survey questionnaire, based on the list of themes and qualities that were identified in the previous phases, was prepared with the aim to further broaden the mapping and obtain an overview of (in)justices experienced by participants in the three case study areas. Thus, the aim of the third phase of the research was the development of a tool that can map the multiplicity of the qualities explored in previous phases. This tool then was used to analyse the data gathered from the questionnaire.

Survey

The questionnaire included three sections based on each of the themes that were explored in the previous phases. It contains questions designed to explore more straightforward and less personal answers at the beginning, while gradually starting to seek more personal information toward the end.⁶² Each quality has one or more corresponding questions; a copy of the final questionnaire is included in Appendix VI.

The questionnaire was created in two platforms: Microsoft Office Word was used for a hard copy while the digital internet-based version used Typeform.⁶³ A pilot survey was carried out in order to better assess the clarity of the questions and the overall survey design. The majority of the questions were close ended (with answers to choose from based on the discussions of the previous phases) in order to shorten the time needed to respond to the questionnaire. However, the questions had the option of 'Other' to add to the answers or to further explain the answers if participants desire to do so. Furthermore, an open-ended question was included at the end of the questionnaire thereby allowing the respondents to expand on their experiences of (in)justice. On average this survey took no more than 15 minutes to complete. In total 208 individuals participated in the questionnaire of which 201 were admissible.

Recruitment and distribution process

I used a variety of methods to conduct the questionnaire enquiry in the case study areas, including:

Mail based: Questionnaires were given to households by posting an envelope in their mailbox including the questionnaire, the information sheet, the consent form and an extra stamped envelope with my address to return the responses. I also provided the household with a link to the internet page of the questionnaire in case this option was preferred by participants. These households were located in the case study neighbourhoods (Parson Cross, Highfield (Sharrow), Dore). The houses were randomly selected through choosing odd or even house numbers in the street.

⁶² Kitchin and Tate, *Conducting Research in Human Geography*; William Lawrence Neuman, *Social Research Methods: Qualitative and Quantitative Approaches*, 7. ed., Pearson new internat. ed, Pearson Custom Library (Harlow: Pearson, 2014), 315–20.

⁶³ Typeform.com, 'Free & Beautifully Human Online Forms |', Free Beautiful Online Survey & Form Builder | Typeform, accessed 11 November 2017, <https://www.typeform.com/>.

Internet based: The questionnaire was also created using Typeform, an internet platform. Reasons for using this platform include: it is free to use; it has an easy and clear interface that allows responses on all device and with different screen size (desktop, laptop, tablet and smartphones); it allows archiving both the questionnaire and the responses on the internet and the results can be downloaded in Excel and CSV format, which is accepted by all data analysis software packages. I also want to encourage and test the development of an application that can periodically conduct such research in the future. Participants were provided with a link and a QR code to easily connect to the questionnaire web page. The link to the internet page of the questionnaire was also given to the community centres and internet forums of three case study areas to spread it among residents of these neighbourhoods.

Outcome

As mentioned, the third phase of the mapping experimented with a method to broaden the research on mapping (in)justice in the city. Although there are inevitable restraints that come with surveys (e.g. less flexibility or depth)⁶⁴, the previous exploratory phases provided the overall mapping method with the necessary flexibility to explore and discuss the subjects in depth. Thus, using the survey to widen the mapping allowed for a level of repetition and generality to be introduced into what was a predominantly subjective and qualitative process.

The survey produced a very useful depository of data and responses provided by participants that was used to inform a tool to map multiplicity of (in)justice in the city. Based on this data the developed Mapping Multiplicity program enables the research to gain a better understanding of how (in)justices are experienced by inhabitants in the city and how they vary in different neighbourhoods in the city. The Mapping Multiplicity program was developed with the aim to complement the limitations of distributive approaches and quantitative processes by means of incorporating various social qualities and aspects that emerged from engaging local knowledge of people and various ways they experience (in)justice based on their class, ethnicities, race, gender and so on. In this way marginalised and silent groups and their different experiences which are often disregarded in distributive method are no longer excluded.

3.4 Summary and reflection on the methodological approach

The chapter started by defining some of the main methodological influences of the research. Against the background of (in)justice as an interdisciplinary topic, what brings together the various disciplines of architecture, urbanism, sociology and critical theory are the insights of feminism. Diverse strands of feminist methodology provide a critical viewpoint that privileges the perspective of marginalised and the excluded subjects, which is particularly beneficial for mapping inhabitants' experiences of (in)justice in the city. Feminist objectivity that is not about separating subject and object but rather about acknowledging the partiality of the subject and recognising knowledge as situated, identifies the way objectivity is defined in this research. Mobile positioning and nomadic subjects are not about blurring boundaries but rather about taking an additive approach of bringing different concepts and

⁶⁴ Kitchin and Tate, *Conducting Research in Human Geography*, 45–69.

methods from different disciplines together. Using them in this diverse context defines the way that the mapping and the methodology were conducted in this research, i.e. as a form of bricolage of ideas and multi-level methods.

The research at large stands opposite to positivist approaches (that are predominantly used in current methods of mapping, urban design and planning), which assumes that complex and multi-layered social activities can be reduced to quantifiable mathematical analyses. Inspired by feminist methodology and mapping (in)justices from the perspective of inhabitants, the research here is also aligned with other methodological approaches, including: social constructivist approach (that identifies the lived reality as socially constructed) by concentrating on the perception of inhabitants and viewing the city from the perspective of the residents it indicates aspects of phenomenology; and action research that holds a participatory worldview and focuses on developing the knowledge through democratic process and participation of those who are concerned.

In the context of searching for a path towards a more just city and to situate the mapping of (in)justice in the city a case study approach was taken. Case study research provides a context-dependent knowledge that is necessary for an exploratory research and allows for in-depth investigation and mapping of (in)justice from the point of view of residents. Sheffield as a labour city with a long history intertwined with experiences of injustice, deprivation and exploitation presented itself as an appropriate case study. Three neighbourhoods, namely (Highfield (Sharrow), Parson Cross and Dore, were chosen as critical cases with a maximum variety based on the two aspects deprivation and social diversity, with the aim of gaining information about the significance of various circumstances when experiencing (in)justice.

In addition to using Sheffield as a case study, the research used a multi-method investigation for identifying, understanding and representing inhabitants' experiences of (in)justice that is formulated in this research in three phases of 'mapping' (in)justices. Thus, the methodological approaches described in this chapter were consolidated into these three mapping phases, which will further be discussed in Chapter 4 through various philosophies, precedents, mapping techniques and ways of doing.

The mapping begins in phase 1 with 'Storytelling', which focuses on the experiences of (in)justice through individual perspectives of inhabitants. Storytelling and conversations that take place in this phase are methods of open-ended interviews that provide a flexible process to explore themes and qualities that influence inhabitants' experiences of (in)justice in the city. This individual, one-to-one process is then followed by the collective approach of 'Map Art' in phase 2. In this phase Map Art serves two purposes: first, it is a way to experiment alternative ways of eliciting and representing subjective data; the artefacts produced through the collaborative mapping process of Map Art represent the way the city is perceived by participants through various themes and qualities that were discovered in the previous phase. Second, the artefacts are used as intermediary tools to trigger conversations and discussions among participants over these themes and qualities. In this phase personal perspectives give their place to group, multi-angle views. Thus phase 2 provides the overall methodology with further in-depth discussions and explorations of these aspects (qualities) through obtaining contrasting viewpoints that arise due to diverse social, political and cultural values of participants.

These two phases together enable the exploration of themes and qualities that influence residents' experiences of (in)justice in the city (Sheffield) which, after they were contextualised in the literature, result in a table of qualities that is used as a basis for the 3rd phase.

As discussed, the 3rd phase of the research attempts to broaden the mapping of (in)justice in a wider context. For this purpose, the qualities that emerged in the discussions during the previous two phases were turned into a questionnaire that was used to survey the three case study areas. While surveys come with certain limitations (e.g. lack of flexibility), the highly qualitative and subjective methods used for the two previous phases provided the overall mapping method with the necessary flexibility and openness to explore and discuss the subjects in depth. Therefore, using the survey and the Mapping Multiplicity program allows for a level of repetition and generality to be introduced, through which the overall mapping process can be broadened.

The previous discussions as well as the data produced by the survey were used to inform a tool to map multiplicity of (in)justice in the city. Based on this data the Mapping Multiplicity program enables the research to gain a better understanding of how (in)justices are experienced and how they vary among different groups or communities. The Mapping Multiplicities program was developed with the aim of complementing the distributive approach and the limitations of quantitative processes by means of incorporating various qualities and aspects that emerges from engaging local knowledge of people and various ways they experience (in)justice based on their class, ethnicities, race, gender and so on. In this way the Mapping Multiplicity program can become a tool, within just urbanism in particular, and more generally within participatory and alternative planning and design processes.

The overall mapping method represents an important aspect of originality of this research which enables designers, researchers and planners to map (in)justice in the city from different angles and, based on the subjectivity of inhabitants in the city, in turn, enable them to articulate a potential solution more situated in the local context and backed up by thorough research.

The overall research process was complex, multi-layered and includes different perspectives, which provided richness to the insights gathered. It allowed the creation of a bricolage of Sheffield from the viewpoint of its residents and of their experiences of (in)justice. While, it might be argued that this image represents the views of a small group of inhabitants, the overall method shows what can emerge when such mappings are carried out in larger context— that is, its possibility to enable more designers, planners and city decision makers to use it. Now and again, the thesis had its limitations, due to the considerable time and effort involved in designing, conducting and analysing its various phases whilst developing and coding the mapping program. One way of addressing this could have been to reduce the number of mapping phases— especially the qualitative enquiry of the first two phases. Nevertheless, cities and the issue of (in)justice are complex and multifaceted by nature and I feared that reducing the research process would have caused missing details or ignoring aspects, which would not have served them justice. From this viewpoint (as Flyvbjerg also points out), telling the story in its diversity and through all its details, opens up a complex and many-sided subject and can enable others for further interpretation and exploration.

4 Composing methods of mapping inhabitants' experiences of (in)justice

*"... all theory may be regarded as a kind of map extended over space and time."*¹

This chapter represents a review of the literature and theoretical framework behind the mapping practices conducted in this research. After discussing the methodological approach in the previous chapter, the review here expands on mapping methods through which I formulate each phase of mapping.

The chapter starts with an overview of the various ways maps are utilised in the border context and then situates and defines the way they have been used in this research. This is followed by reviews of relevant concepts, precedents and techniques used for each phase of mapping including: storytelling as a method to access internal processes on how individuals experience (in)justice and a way for one to displace oneself; Map Art as a collaborative mapmaking process and using the map artefact as an intermediary tool to trigger collective conversation; technological means and computing power as a way to expand mapping of (in)justice in wider scale. The Mapping Multiplicity conceptualized in the last phase attempts to complement the limitations of distributive and quantitative approaches, by building on Deleuze and Guattari's notion of rhizome and line.

4.1 An overview of mapping

It is argued that human's need to create and use maps emerged in the early stages of the co-evolution of mind and culture. Spatiality is fundamental to our consciousness and our understanding of experiences.² Space is where our experiences take place and language enables us to communicate these to others:

*"As we experience space, and construct representations of it, we know that it will be continuous. Everything is somewhere, and no matter what other characteristics object do not share, they always share relative location, that is, spatiality; hence the desirability of equating knowledge with space, an intellectual space. [...] This proposition appears to be so fundamental that apparently it is simply adopted a priori."*³

In contrast with the 'here and now' language of other primates, the development of human language began to tie time and space in the network of grammars and metaphors. Progression of spatial consciousness is closely interlinked with the way language has developed. It is argued that the

¹ Michael Polanyi and Mary Jo Nye, *Personal Knowledge: Towards a Post-Critical Philosophy*, Enlarged edition (Chicago: University of Chicago Press, 2015), 4.

² Jean Piaget and Bärbel Inhelder, *The Child's Conception of Space* (New York: W.W. Norton, 1967), 6ff.

³ J. B. Harley and Paul Laxton, *The New Nature of Maps: Essays in the History of Cartography*, Johns Hopkins Paperbacks (Baltimore, Md.: Johns Hopkins Univ. Press, 2002), 4.

cognitive structure which formed the primitive language had a strong spatial component that not only helped to provide the structure but also the functional foundation of language.⁴

“Once hominids had developed names (or other symbols) for place, individuals, and actions, cognitive maps and strategies would provide a basis for production and comprehension of sequences of these symbols ... Shared network-like or hierarchical structures, when externalized by sequences of vocalizations or gestures, may thus have provided the structural foundations of language . . . In this way, cognitive maps may have been a major factor in the intellectual evolution of hominids . . . cognitive maps provided the structure necessary to form complex sequences of utterances. Names and plans for their combination then allowed the transmission of symbolic information not only from individual to individual, but also from generation to generation.”⁵

In this way, maps as a cognitive and communication process have been an integral part of our experience and knowledge. Though spatiality is a fundamental part of all cultures, the way that different cultures experience the world varies. Their episteme and worldview create diverse definitions of what counts as ‘relative location’; i.e. in every culture the definition of an object and their spatial relation is constituted based on their ontology and the psyche of that culture rather than being a constant invariant characteristic of the world. Thus, *“one must be careful not to take one’s own view as definitive of all maps.”⁶*

The diversity of human culture brings about many forms, functions and materiality for maps. Accordingly, maps are defined, categorised and viewed through many different eyes. David Woodward and Malcolm Lewis in the book ‘The History of Cartography’ define three main approaches of mapping. First is the map as an internal and cognitive process that one uses to make sense of the world as well as being a record of how people perceive spaces. Second is the map as material culture that covers most objects we generally think of as maps including drawings, paintings, ceramics, textile and so on. Third, the map as social construction that is often conducted through process and performance (also called performance maps), which can be divided into two categories, namely nonmaterial & ephemeral and material & ephemeral.⁷ For instance, nonmaterial and ephemeral mapping is performed through storytelling, dance, making a speech, writing poems, singing songs, rituals and gestures. Material and ephemeral maps include models, sculptures and sketches, however, they are still ephemeral like drawing on sand or with water on the ground or making a model with snow.⁸ Performative maps mostly have ephemeral vestiges, they are created in a social context, live across generations through performance and disappear when they are no longer necessary.

The dominant ‘Western world view’ of mapping which privileges the accurate and objective projection of the topography with fixed characteristics above all other approaches mainly shapes what we consider today to be a map. However, the objectivity, accuracy and functionality that is

⁴ Lewis G. Malcolm, ‘The Origins of Cartography’, in *Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean*, ed. J. B. Harley and David Woodward, The History of Cartography, v. 1 (Chicago: University of Chicago Press, 1987), 50–53.

⁵ Roger, ‘Communication, Cognitive Mapping, and Strategy in Wolves and Hominids’, in *Wolf and Man: Evolution in Parallel*, ed. Roberta L. Hall and Peters Roger (Academic Press, 1978), 106.

⁶ David Turnbull and Helen Watson, *Maps Are Territories: Science Is an Atlas: A Portfolio of Exhibits*, University of Chicago Press ed (Chicago: University of Chicago Press, 1993), 2–3.

⁷ J. B. Harley and David Woodward, eds., *Cartography in the Traditional Islamic and South Asian Societies*, The History of Cartography, v. 2, bk. 1 (Chicago: University of Chicago Press, 1992), 3.

⁸ ‘Woodward, History of Cartography 2.3, Excerpt’, accessed 8 July 2014, <http://www.press.uchicago.edu/Misc/Chicago/907287.html#1>.

considered to make these maps superior to other tactics that are often called 'primitive' can be questioned.

First of all, maps are subjective and selective. Maps do not and cannot show all there is to know about a particular environment. The mapmaker defines what *is* and what *is not* included in the map. Therefore, it is not only the environmental aspects that define the map but also the human mediator (and his perspective) that creates it. In addition, maps need to transmit information and function to others. Therefore, maps need to be intersubjective to be able to carry information.⁹ For that reason, signs, symbols, visual features or the information that has been selected to produce maps include to some degree the socio-cultural conventions of the mapper. Second, is the question of accuracy and functionality of Maps. As mentioned, maps are selective of the information they represent and they cannot include all there is to know. Therefore, even the most accurate maps are inaccurate to the level to which they omit details. If maps are selective on the level and type of detail that they show, then selected details should have a particular purpose and fulfil a certain functionality. Hence the accuracy of maps can only be assessed with regard to the function for which they were intended.

Consequently, the claim that indigenous or so called 'primitive' maps are more subjective and hence less scientific or not accurate is not correct since they need to be read in the context of their culture and be assessed with regard to the functionality for which they were intended. Various approaches to mapping reveal a diversity *"in the ways the differing cultures achieve a transcendence of indexicality"*¹⁰, rather than a difference in their correspondence to reality."¹¹

Although, certain graphical conventions that are used in the creation of cartographies (specially in Western maps) attempt to actively suppress or deny particular perspective of its creators, a map's orientation, size, scale, texture, symbols, colours and so on are all aspects that influence the way the map is understood.

For example, Gerhard Mercator's projection of the earth that represents compass directions as straight lines with north on the top, creates a relative distortion in size with the intensity of this distortion increasing towards the poles. This influential projection raises questions over the objectivity of its mapper¹² as it favours Britain and Europe (the major colonizing power of the time) in the centre of the map while projecting them larger and above most of the colonised nations.

Similarly, the map orientation is a subjective convention. It was a common practice to position east on top of the map as the direction of the rising sun.¹³ However, since the economic dominance of northern Europe, north is conventionally directed toward 'up', to position Europe on top of the map, in spite of the fact that north is not an advantaged direction in space. Therefore, maps and conventions that create them often follow political, cultural and ideological interests. Although the Western world view claims that for the map to be credible, it has to be objective and represent the

⁹ Turnbull and Watson, *Maps Are Territories*, 15.

¹⁰ Indexical statements are those that are dependent for their truth on their context.

¹¹ Turnbull and Watson, *Maps Are Territories*, 42.

¹² Nicholas Crane, *Mercator: The Man Who Mapped the Planet*, 1. paperback ed, A Phoenix Paperback (London: Phoenix, 2003), 269.

¹³ Orientation comes from the word 'orient or East; being the direction of the rising sun.

'real world' landscape without personal or social mediation, we can gain no direct objective experience of the external material world to fulfil that promise.¹⁴

Thus, maps are not value-free and neutral representations. The production and representation of maps in a certain manner can be used to assert or reproduce a particular way of thinking about the world. They are loaded with ideology and represent the interest of their makers, and thus can be used as a political instrument to claim territories, to ignore an entire community or as a surveillance tool.¹⁵

The history of maps (particularly Western) is aligned with a long history of colonialization, exploitation and oppression. Brian Harley, Denis Wood and Mark Monmonier¹⁶ are among the cartographers who have a critical view on the power of maps and their role in colonialism, propaganda, the distortions of reality, surveillance and the submersion of certain subjects or communities.

Therefore, another useful way to group maps is based on their position toward power. Denis Wood¹⁷ and Brian Holmes¹⁸ divide maps into "dominant" maps, referring to maps that serve the interest of power, and, in contrast to this, "counter-Mapping", a critical method in which mapping is employed to 'dissent' and resist the power of the state.

The various map forms (i.e. different temporalities, processes or materiality) can be used for both dominance or dissent. However, the maps of dominance have a tendency to use forms that are larger in scale, include larger populations, are more objective and quantitative and are believed to have higher accuracy while other forms, because of their internal quality (personal, cognitive, subjective), their process of making, their materiality (e.g. non-material maps of story, gesture, song, speech) or their temporality (e.g. ephemeral maps such as stories and performance), are often forsaken as a strategic tool by the state and are used more by artists, mappers and designers as a tactic to resist power.

Given the fact that maps are subjective, selective and assert power through what is included in the map and how the information is gathered and communicated through the map, the choice of what and how to map can also be used as a way to unleash the power of maps in favour of people. In this way, instead of being an instrument in the hand of the state, by taking the position of the marginalised and excluded subjects, maps can identify and represent gaps and bring to light injustices of what has been missed or ignored, considered insignificant and marginalised or hidden to exercise power.

From the early 20th century on, practices such as mental mapping, Map Art practices, indigenous and bioregional mapping and through all sort of blending, interbreeding and cross-boundary work,

¹⁴ Turnbull and Watson, *Maps Are Territories*, 8–10.

¹⁵ Rob Kitchin, Martin Dodge, and C. R. Perkins, 'Introductory Essay: Power and Politics of Mapping', in *The Map Reader: Theories of Mapping Practice and Cartographic Representation* (Chichester, West Sussex [England]; Hoboken, NJ: Wiley-Blackwell, 2011), 387–94.

¹⁶ Related publications include: J. B. Harley, 'Maps, Knowledge, Power', in *The Iconography of Landscape: Essays on the Symbolic Representation, Design and Use of Past Environments*, ed. Denis E. Cosgrove, Stephen Daniels, and Institute of British Geographers, vol. Cambridge studies in historical geography (Cambridge: Cambridge University Press, 1988); Mark S. Monmonier, *How to Lie with Maps*, 2nd ed (Chicago: University of Chicago Press, 1996); Harley and Laxton, *The New Nature of Maps*; Mark S. Monmonier, *Spying with Maps: Surveillance Technologies and the Future of Privacy*, Pbk ed (Chicago, Ill.: Univ. Chicago Press, 2004).

¹⁷ Denis Wood, John Fels, and John Krygier, *Rethinking the Power of Maps* (New York: Guilford Press, 2010), 8–11.

¹⁸ Brian Holmes, 'Counter Cartographies', in *Else/Where: Mapping: New Cartographies of Networks and Territories; [Mapping Networks, Mapping Conversations, Mapping Territories, Mapping Mapping]*, ed. Janet Abrams and Peter Hall, 2. print (Minneapolis, Minn: Univ. of Minnesota Press, 2008), 20–25.

inspired by perception of global injustice, artists, mappers and designers use these alternative mapping techniques to oppose cartography as a privileged practice.¹⁹ These critical approaches to cartography (often named counter-mapping or counter-cartography) attempt to put back feelings, emotions, stories, narratives, memories, art, events, protest, relations, temporalities, and on the whole all the experiences that have been stripped of the map and mapmaking process by Western cartography. What is shared among these approaches is that they do not hide their subjectivity with “unauthored dispassion” as “neutral objectivity”²⁰; they go beyond mere projection of land, geography and territory by incorporating the experiences gathered through their making and their representation; the resulting maps are often vastly different than what is commonly considered to be a map.

It is this critical approach of counter-mapping and the perspective of the marginalised that is particularly useful for mapping (in)justice in the city. That is, a critical practice of mapping that not only views the city as agglomeration of inhabitants, buildings, infrastructure and services but recognises memories, stories and activities that at times may be ephemeral and temporary but often have permanent and everlasting impact on shaping the experience and everyday life of inhabitants in the city.

In the following discussion, I attempt to formulate my own approach and discuss mapping (in)justice by looking at a number of different philosophies, methods and mapping practices. Therefore, in this chapter, I try to address the question of how mapping can be employed to explore, identify and represent subjectivities, qualities and themes that influence inhabitant’s experience of (in)justice.

4.2 Methods of mapping subjectivities and experiences of (in)justice

The capability of maps to represent more than just the physical space, to connect, and to relate what might appear to be unrelated and heterogeneous qualities, while being able to handle complex and multi-layered information are considered to be most useful in mapping (in)justice as experienced by inhabitants in the city.

Mapping here is regarded as an approach to explore, recognise and represent inhabitants’ experiences of (in)justice in the city. Thus, the function and process of map making also changes. While traditionally cartographers take on a godlike role of the creator determining what kind of truth about the earth needs to be included and represented through a flattened two-dimensional format of the paper, in this research I do not take complete authority in the map making process but rather share this process with people who are not just the subject of the map but also its creator. In this way the mapping practice becomes a collaborative activity that mimics and embeds itself in the world around it, takes the perspective of inhabitants, marginalised and excluded subjects and tells the story from their viewpoint, which is in accordance with the feminist stance of this thesis. In this way the mapper can never master the map and neither can he dominate the terrain.

¹⁹ Wood, Fels, and Krygier, *Rethinking the Power of Maps*, 111.

²⁰ Denis Wood, ‘Map Art’, *Cartographic Perspectives*, no. 53 (1 March 2006): 5–14, <https://doi.org/10.14714/CP53.358>.

This is also why I chose the word 'mapping' instead of 'cartography'. In this way I attempt to move away from the cartographers' position of the powerful and to separate the mapping practice from the elite profession of cartography. Instead I take a mode of mimicry, reciprocity and collaboration to share the process with people and acknowledge the mapmakers' own position thus giving value to the amateur but situated knowledge, while taking the role of the non-professional specialist.

For the mapping to be used as a method within just urbanism, it is necessary for the map to recognise and represent (in)justice as a complex and multi-level topic with different perspectives in each layer. I arranged these mappings according to the scale of the method of enquiry. Here scale is considered beyond the topographical understanding of size and distance between objects but is rather understood topologically. This notion of scale is required to account for continuity in mapping relations among heterogeneous political, social and cultural qualities of (in)justice that may take place far apart when it comes to distance but nevertheless are topologically close.

As discussed in the Chapter 3, the research is conducted through a multi-level approach in three phases of mapping. Phase one starts with the individual, one-on-one, personal perspective. Then the individual perspective gives way to a multi-angle group viewpoint in phase two. Subsequently phase three attempts to map the multiplicity of (in)justice in the larger scale of the city. Each phase of mapping offers a new approach and each approach broadens the point of view of the overall mapping. Thus, each phase of the mapping would contribute to a process of developing a more complete picture (a bricolage) of inhabitants' experience of (in)justice in the city. Accordingly, here I arrange different mapping practices and concepts from a more personal, one-on-one and qualitative toward a more collective and broader approach to map multiplicity of singularities and qualitative data.

These various approaches to mapping, while being aware of the purpose they serve, can allow to formulate a multi-level mapping approach that enables the exploration, identification and representation of subjectivities, qualities and themes that influence inhabitant's experience of (in)justice.

4.2.1 Storytelling and Map Art: eliciting and representing subjectivities and experiences

There are different ways for eliciting and representing subjectivities and experiences of (in)justice, the most promising of which is through mental mapping. Mental maps are internal processes, memories, experiences, etc. that can be accessed and represented in various ways. Throughout history and up until today people have used different means, e.g. songlines, dances, epic stories, performance, collaborative art creation, to represent these mental maps and make them accessible to others. In the following, these mental maps and their different manifestations will be presented, with a focus on storytelling and Map Art, which have inspired the research methods of phase 1 (individual, one-on-one approach) and 2 (collaborative approach) of my work.

Mental maps

As mentioned at the beginning of this chapter, spatial constructs are a fundamental part of our knowledge and experiences. There are various human activities that are closely related to our understanding and representation of space, e.g. navigation and wayfinding, spatial estimation of directions and distances, visualising the character and quality of space and local places and constructing spatial views and description of imaginary and real worlds. The mental construction of space and related cognitive processes to understand these spatiality is often labelled as cognitive or mental maps.

Mental maps are primarily an inner experience and internal process and its practice has become a popular subject to study the way people understand their environment, experiences and spatiality. There are many ways in which different practices use the term mental map. One refers to an image or concept of the place, space or environment held in the mind of a person. This mental image is based on memory and the way space or environment are remembered; for example, from having seen a physical map, a bodily experience of moving through the space, a description of space or the way one constructs the space through his/her experience of reality (e.g. the way one depicts one's neighbourhood). The mental mapping can be used for finding directions, navigation, to boost memory, to envisage fantasy or imaginative territories and worlds, to structure and store knowledge, rehearse spatial behaviour in the mind or reflect on experiences and relate them to the particular place.²¹

'Cognitive maps' are used by scholars, particularly in psychology, to describe and identify how people perceive ideas, knowledge or places. This term was introduced by Edward Tolman,²² who attempted to create mental models of how knowledge, memory and understanding forms in the mind. The term 'mental map', which is more connected to geography, architecture and urban design was used by scholars such as Gould and White in the book *Mental Maps*²³ to draw information about one's spatial knowledge and desirability of locations. Kevin Lynch is one of the prominent authors who used mental maps in his influential book *the image of the city*. Lynch asked participants in his research to make rough sketches of the city as if they wanted to describe it to others, that is, covering the main features that stand out in the mind when people think about cities. Consequently he identified five elements as predominant in the way a city is depicted, i.e. landmarks, districts, nodes, edges and paths.²⁴ In this way Lynch attempted to map the city as it was perceived by people through their subjectivity which is significantly connected with their everyday life and experiences in the city.

In a similar manner, mental mapping can be a valuable way to explore qualities and aspects that influence people's experience of (in)justice; to map the way (in)justice is perceived, the spatiality that they relate to these experiences and how their memories and lives have been shaped by it. Thus, these practices become relevant in the context of this research.

²¹ 'Woodward, History of Cartography 2.3, Excerpt'; David Woodward and G. Malcolm Lewis, eds., *Cartography in the Traditional African, American, Arctic, Australian, and Pacific Societies*, The History of Cartography, v. 2, bk. 3 (Chicago: University of Chicago Press, 1998), 2–4.

²² Edward C. Tolman, 'Cognitive Maps in Rats and Men.', *Psychological Review* 55, no. 4 (1948): 189–208, <https://doi.org/10.1037/h0061626>.

²³ For more info See: Peter Gould and Rodney White, *Mental Maps*, 2nd ed (London ; New York: Routledge, 1992).

²⁴ Kevin Lynch, *The Image of the City* (Cambridge, Mass.: MIT Press, 1960), 141.

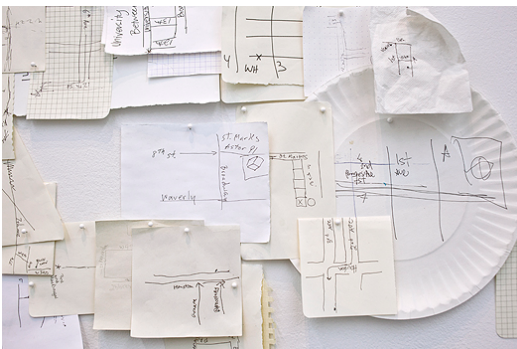
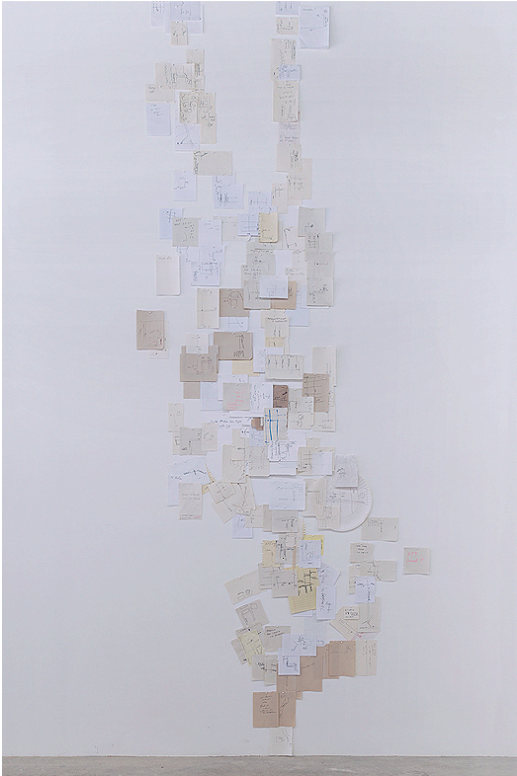


Figure 1-1 Map of Manhattan by Nobutaka Aozaki.
Source: <http://www.nobutakaaozaki.com/>

There are many ways to represent mental maps. As mentioned, Lynch used rough sketching of the city, which is also a practice used by artists in different contexts. The artist Nobutaka Aozaki used the mental mapping technique to create a map of Manhattan from memory. He pretended to be a tourist and asked pedestrians for directions and to draw them, using various pens and papers. Then, by connecting these small maps based on the memory of the various people, he created a larger map of Manhattan (Figure 1-1).²⁵

Another similar example to Aozaki maps are the maps of the London underground created by Helen Scalway. She calls these maps *Traveling Blind* since she wanted to represent how people mentally construct and navigate through the closed and twisted spaces of tubes. She mentions that she wanted to reveal how "the personal geographies of tube travellers whose private copings with the city's space might mingle strangely with the authoritative suggestions of official maps."²⁶ A very good example of how imagined territories and places are spatially constructed in people's mind is Nishat Awan's mental maps of Kurdistan. In her research, she asked Kurdish residents in London to draw a map of Kurdistan as they imagine it in their mind. As Awan mentions these maps were "Kurdistan as a geographic location, a concept, a hope, a person or an ideology"; they were mental constructions of a country, a territory and borders that "was not represented in the hegemonic accounts of those on power" but only in the mind of Kurdish people.²⁷

As can be seen drawing and sketching is one of the basic ways to communicate and represent mental maps or in fact any spatial understanding. Furthermore, as mentioned previously there are various methods through which maps are produced and communicate information, whether as a mirror-like representation of the environment or as imagined in the mind. These bring about a number of various practices many of which are rooted in the cultural and social context or even in the climate that the map has been produced in. Here I will discuss some of these various mapping approaches and representations.

²⁵ 'Nobutaka Aozaki', accessed 24 November 2016, <http://www.nobutakaaozaki.com/maps.html>.

²⁶ 'Travelling Blind :: Helen Scalway | Artist | Writer |', accessed 24 November 2016, <http://www.helenscalway.com/travelling-blind/>; Steve Pile, N. J. Thrift, and Helen Scalway, eds., 'Travelling Blind', in *City A-Z* (London New York: Routledge, 2000), xvi.

²⁷ Nishat Awan, *Diasporic Agencies: Mapping the City Otherwise*, Design and the Built Environment (Burlington, VT: Ashgate Publishing Company, 2016), 186.

Unconventional representations: practices of mental maps through experience, observation and mimicry

Material artefacts used by natives in the Marshall Islands and by the Greenland Inuit are examples that are very different compared to the way we read maps today. They attempted to take advantage of other senses and represent information with materials other than paper or screen.

Stick maps from the Marshall Islands were formed by basic materials found in nature. In these maps shells represent the location of islands and the sticks indicate currents and lines of swell. These maps were primarily used as a tool to memorize and learn to navigate and were not carried by the sailors during the sea voyages.²⁸ These maps attempted to represent the movements and currents in the sea, which could only be learned by experienced sailors and cannot be seen unless by experiencing the drag that water inflicts on the vessel. These maps were used as a pedagogical tool and attempted to represent the mind map and memories of these experiences to the young sailors.

Another example is the coastal maps of the Greenland Inuit (Eskimo) that represent the stretch and shape of the coast line and the offshore islands. But instead of using conventional graphical representation they are carved on wooden pieces that not only show the shape but also the relative topography of the coast line. Inuit maps can be kept on the boat or in the pocket and will not be spoiled (as paper) by humidity (water and snow). They can be understood not only by looking at them but also through tactile sensation. (Figure 1-2)

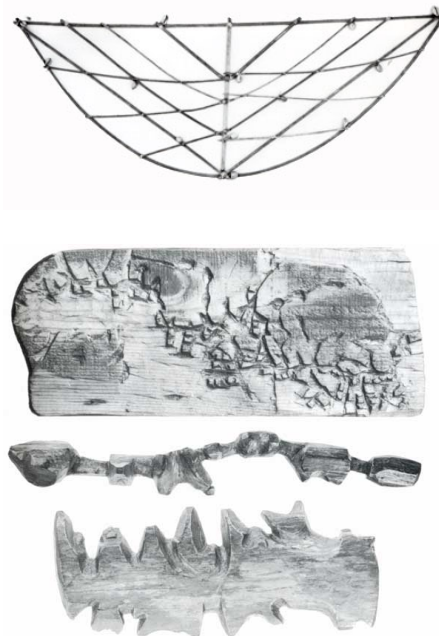


Figure 1-2 top picture: Stick maps from the Marshall Islands. Bottom picture: coastal maps of the Greenland Inuit.

Source: territories.indigenousknowledge.org/

These maps offer other ways to conceive maps that are radically different to conventional graphical representations. Instead of using lines drawn on paper, which are difficult to read in cold humid climate (of the arctic), sea travellers can read these maps without exposing their hands to the cold weather as well as creating distinct, tactile memory of the coastlines and offshore islands.

Some studies suggest that experiences of everyday life and memory of these experiences are stored in various places in the brain in relation to that particular sense that indexes the information in the brain.²⁹ Interestingly the representation and communication of such memories also varies based on the sense(s) that was involved in the recording and creation of the memory. Accordingly, the representation of the coastlines and the way they are represented also shows the deeper connection and relation of the body and its experiences of the surrounding environment. These maps represent

²⁸ For more information please see R. Winkler, *On Sea Charts Formerly Used in the Marshall Islands, with Notices on the Navigation of These Islanders in General, by Captain Winkler, ...* (U.S. Government Printing Office, 1901), <https://books.google.be/books?id=-C43QwAACAAJ>.

²⁹ H.Q. Dinh et al., 'Evaluating the Importance of Multi-Sensory Input on Memory and the Sense of Presence in Virtual Environments' (IEEE Comput. Soc, 1999), 222–28, <https://doi.org/10.1109/VR.1999.756955>; Michel Quak, Raquel Elea London, and Durk Talsma, 'A Multisensory Perspective of Working Memory', *Frontiers in Human Neuroscience* 9 (21 April 2015), <https://doi.org/10.3389/fnhum.2015.00197>; Pawel J. Matusz, Mark T. Wallace, and Micah M. Murray, 'A Multisensory Perspective on Object Memory', *Neuropsychologia* 105 (October 2017): 243–52, <https://doi.org/10.1016/j.neuropsychologia.2017.04.008>.

a type of mimicry of these experiences and how they are perceived, particularly in the featureless landscape where sight is of less use and other senses are heightened.

Robert Rundstorm who has studied cultural interpretation of Inuit mapping and maps, refers to mimicry as essential part of Inuit culture. He describes Inuit map making as an aspect of everyday life. For Inuit accurate mapmaking (and memorizing it) is a necessity to navigate the long distances into the homogeneous landscape of the arctic. It is "*part of traditional hunting and migration cycles.*"³⁰ For example, memetic performance was conducted for hunting animals. In an environment that lacks concealment, Inuit mimic their prey's behaviour to get close enough to their prey. In this way the Inuit absorb, understand and communicate with the environment around them. This close and mimetic observation is also praised in carvings of animals, as the copy should render the exact shape, feather and hair; only by precise reproduction of reality can one become *miksiqaktuk* i.e. the one who has realistic sense.³¹ Therefore, mimicry as an embodiment of the physical world has a significant role in Inuit culture, they take pride in the accuracy of their maps, which brings prestige and standing in the community.

Other than using different senses (tactile and visual) and the skilful rendering of spatial information, Inuit have been praised for the accuracy and detail of their map while openly sharing geographical information with foreigners. Rundstorm discusses that Inuit willingly complied with foreign request for geographical information partly due to the severe nature of the arctic environment and the high risk of traveling which encourages a culture of sharing information to survive. The ability of Inuit to communicate these maps to the foreign explorers in a way that they could understand also comes from their mimetic ability. Inuit maps did not use the same conventions as Europeans but they purposely presented the information in ways that were understandable for people alien to their culture.³²

Mimicry therefore is a way to observe, experiences and gather information but also communicate not only with other people but also with animals and nature. Inuit fuse, communicate and become one with their environment through imitation. Therefore, mimicry can be understood here as a way for one to displace oneself. Through this practice it becomes possible to even momentarily take the position of others, create closer connections and see everything through their eyes.

To map (in)justices in the city it is necessary to take the position of the one who experiences it. Being present in the moment, trying to understand and see through the eyes of those who have been marginalised can enable the mapper, the researcher or the designer to practice and learn how to displace himself and keep his ego in check. In this way it becomes possible to explore qualities and factors in their full extent from the perspective of the other; the qualities that might have been missed holding a godlike, voyeuristic, top-down viewpoint of the traditional cartographer. These experiences leave their traces in the memory and subjectivity of the mapper and can be just as significant in exploring the aspects that influence the experience of injustice as other more quantitative metrics.

³⁰ Robert A. Rundstrom, 'A Cultural Interpretation of Inuit Map Accuracy', *Geographical Review* 80, no. 2 (1990): 157, <https://doi.org/10.2307/215479>.

³¹ Rundstrom, 165.

³² For more information see: SPINK and D. W. Moodie, *Eskimo Maps From the Canadian Eastern Arctic*, First Edition edition (York University, 1972).

Storytelling: through song, narration and text

One of the primary ways to communicate information is through language, conversation and narration. Accordingly, there is a long history of relation between oral or literary narrative and spatial information. These narratives can be individual, including information about personal experiences and subjective perceptions of the world. These personal stories represent our memories and personal journeys that record and represent our passage through life. Or they can be collective stories for a society, representing history and ways of apprehending and being in the world. These collective stories, particularly in the case of indigenous maps, are remembered and performed in various ways of songs, dances or acts, that define their relationship to the environment, the way they claim their territoriality or as a way of resistance.

Bruce Chatwin's book 'The songlines'³³ brought much of the missing attention to Australian Aboriginal songlines. These oral maps represent the mythic pathways or *Dreaming Tracks* that are extended throughout the Australian continent, connecting various *Dreaming sites*. In this way Aboriginal Australians have mapped places they lived at by connecting the real topography of the continent with imagined spatiality of dreams and stories of their ancestral experiences. These maps, which manifest themselves not only in songs but also in artworks, narratives, stories and performances, transcend language. Real travel experiences and fiction blend together, creating a map that goes beyond the mere representation of topography by including experiences and time; in a sense these maps are an oral archive of indigenous history. As a *Pitjantjatjara* woman mentions:

*"We have no books, our history was not written by people with pen and paper. [...] We learned from our grandmothers and grandfathers as they showed us these sacred sites, told us the stories, sang and danced with us the Tjukurpa (the Dreaming Law). We remember it all; in our minds, our bodies and feet as we dance the stories. We continually recreate the Tjukurpa."*³⁴

In the same way the book 'Shahnameh'³⁵, an epic poem written by Ferdowsi after the Islamic conquest of Persia,³⁶ represents an epic history that re-defines and remembers territories of the country, provinces, towns and their roads but also social relations, the state of people's lives, ways of resilience and war. Stories here become a heroic form of resistance against the subjugating power. These poems were read and performed in hidden communities together with various maps as depicted in the story with all the characters, their places and movements, drawn on the canvas 'Parde' (Figure 1-3) and performed by the narrator in the act called 'Naqqali' or 'Shahnameh-khani'.³⁷ These stories were read to children, sang in the festivals, and performed in gatherings not just to remember but also as an act to reclaim territories and to resist against hegemonic oppression. These practices continue until today, representing through narration and performance spatial conditions of earlier

³³ Bruce Chatwin, *The Songlines*, Penguin Classics (New York, N.Y: Penguin Books, 2012).

³⁴ Ann McGrath and Mary Anne Jebb, eds., *Long History, Deep Time: Deepening Histories of Place*, 1st ed. (ANU Press, 2015), 33, <https://doi.org/10.22459/LHDT.05.2015>.

³⁵ Firdausi, Dick Davis, and Azar Nafisi, *Shahnameh: The Persian Book of Kings*, Penguin Classics Deluxe Edition (New York, NY: Penguin Books, 2007).

³⁶ Written between c. 977 and 1010 CE, after Islamic conquest of Persia, Iranians were forced not to write Farsi as their language and replace it with Arabic as unified language in Islamic territory. Any practice of the language in public spaces was illegal, therefore, hidden performances, songs and poetry has been used socially to memories and reserve language, territories and cultural heritage.

³⁷ Amirsam Khataei and Diana Lau, 'Recommender Narrative Visualization', in *Proceedings of the 2013 Conference of the Center for Advanced Studies on Collaborative Research*, CASCON '13 (Riverton, NJ, USA: IBM Corp., 2013), 415–421, <http://dl.acm.org/citation.cfm?id=2555523.2555588>; Mitra Jahandideh and Shahab Khaefi, 'The Most Important Performing Arts Arisen from Shahnameh of Ferdowsi: Shahnameh-Khani and Naqqali of Shahnameh', *Journal of the Indiana Academy of the Social Sciences* 16, no. 2 (17 March 2017), <http://digitalcommons.butler.edu/jiass/vol16/iss2/8>.



Figure 1-3 Shahnameh-khani.

Source: <http://rasammuseum.com/>

times, people and their life, cities and adventurous travels on the journey across the land of 'Iran zamin'.

Aboriginal Songlines, Shahnamen and many other examples show that storytelling is a universal human language through which we communicate our experiences to others. As da Silva and Tehrani have revealed, narration and storytelling have been one of the fundamental ways to transmit experiences, not only vertically through ancestry and between generations but also horizontally across societies.³⁸ Even European cartographers have historically relied on the stories that explorers and scouts have brought back to them from faraway lands to fill the gaps on their cartographies.³⁹

On a more individual level, it has been argued that "*people think narratively rather than argumentatively or paradigmatically.*"⁴⁰

Storytelling is essentially a sense making process that is constructed based on the experiences that took place in the past but with a view to the future.⁴¹ Stories therefore serve several purposes. Through stories we not only record, organise, store and then retrieve information, but also, the process of telling a story is episodic, therapeutic and pleasurable for the both teller and listener.⁴² French philosopher Jean-Paul Sartre remarks,

*"Man is always a teller of tales, he lives surrounded by his stories and the stories of others, he sees everything that happens to him through them; and he tries to live his own life as if he were telling a story."*⁴³

Thus, at a very basic level we need stories to organise and transmit our experiences to others, thereby also creating meaningful relations.⁴⁴ Life events narrated by people about their experiences employ common 'plots' assimilated from the world around them; then these plots are embedded into their subjective retelling of their life stories. Thus, stories are not a mirror-like reconstruction of life but rather 'a rendition of how life is perceived'⁴⁵ and they are historically, contextually and temporally rooted in the world around them.⁴⁶

Storytelling is essentially a human approach to make sense of the world and it is deeply connected to our cognition and experiences of everyday life. It is a way to explore mental maps and internalised processes which are often difficult to comprehend. It is through stories that one can access and

³⁸ Sara Graça da Silva and Jamshid J. Tehrani, 'Comparative Phylogenetic Analyses Uncover the Ancient Roots of Indo-European Folktales', *Royal Society Open Science* 3, no. 1 (January 2016): sec. introduction, <https://doi.org/10.1098/rsos.150645>.

³⁹ Sébastien Caquard, 'Cartography I: Mapping Narrative Cartography', *Progress in Human Geography* 37, no. 1 (February 2013): 136, <https://doi.org/10.1177/0309132511423796>.

⁴⁰ Karl E. Weick, *Sensemaking in Organizations*, Foundations for Organizational Science (Thousand Oaks: Sage Publications, 1995), 127.

⁴¹ Leonard Webster and Patricie Mertova, *Using Narrative Inquiry as a Research Method: An Introduction to Using Critical Event Narrative Analysis in Research on Learning and Teaching* (London ; New York: Routledge, 2007), 1-3.

⁴² Arch G. Woodside, 'Brand-Consumer Storytelling Theory and Research: Introduction to a Psychology & Marketing Special Issue', *Psychology and Marketing* 27, no. 6 (June 2010): 532-33, <https://doi.org/10.1002/mar.20342>.

⁴³ Jean-Paul Sartre, *Nausea* (London: Penguin Books, 2014), 61.

⁴⁴ See: Anne Haas Dyson and Celia Genishi, eds., *The Need for Story: Cultural Diversity in Classroom and Community* (Urbana, Ill: National Council of Teachers of English, 1994).

⁴⁵ Webster and Mertova, *Using Narrative Inquiry as a Research Method*, 3.

⁴⁶ See: Mary Jo Maynes, Jennifer L. Pierce, and Barbara Laslett, *Telling Stories: The Use of Personal Narratives in the Social Sciences and History* (Ithaca: Cornell University Press, 2008).

communicate the complexities and subtleties of human experiences and activities. It provides a framework to explore elements of the human psyche, meanings and the way a person perceives the world.⁴⁷

Therefore, storytelling offers a method through which it is possible to map and explore ways in which people apprehend and experience (in)justice in the city but also through it the mapper, the designer, the researcher can practice to displace themselves to the position of others and see through the lens of their stories. This narrative enquiry has the capability to concentrate on critical life events that influence experiences of (in)justice and to explore qualities and aspects that influence such experiences. It is for these reasons that this approach was adopted for the first phase of mapping.

Map Art: through collaboration and art performance

Map Art as a mapping theme is a relatively recent term used by Wood describing the mapping practices that have been done by Surrealists, Pop artists, Situationists, Conceptualists⁴⁸ and more than 200 artists that have been listed⁴⁹ by Wood under this theme. Maps similar to paintings are communicative mediums i.e. they are produced with an intention to affect behaviour. Map Arts use expressive methods to move beyond conventional modes of enquiry and representation and move toward an increasingly critical understanding of the world. Artists, designers and mapmakers challenge the boundaries that cartographers have established between their mode of graphical communication and other methods (e.g. painting, collage, dance, performance, etc.) by unmasking cartographers disguise of maps' "*unauthored dispassion*" as "*neutral objectivity*"⁵⁰ and by restoring "*values that have been excluded from modern cartography*".⁵¹ Map Art is pointing towards a (real or imagined) world that is not a mere reproduction of the status quo.

A practice of Map Art relevant to this research involves collaboration, embodiment, performance and other experiential methods of enquiry. Through this Map Art questions the traditional methods of mapmaking as an instrument of power, so as to end the status of map and mapmaking as a privileged form of communication. These methods consider the mapping process as a social activity.⁵² In this manner mapmakers take back the map as a discourse in the service of people in general. By observing, discussing, participating and performing around the map making process, it is possible to explore the maps' relation to the identity and subjectivity of mapmakers and how different spaces are constructed in the mind and perceived by people.⁵³

A good example for Map Art is Jake Barton's 'City of Memory', which invites New York residents and visitors to share their stories about the city, thereby creating a collective memory.⁵⁴ 'City of Memory' was developed out of 'Memory Maps', a project that Barton and Nancy Nowacek showcased during a festival in Washington D.C. Festival visitors were invited to write down their stories and pin them

⁴⁷ Christopher Booker, *The Seven Basic Plots: Why We Tell Stories* (London ; New York: Continuum, 2004), 6–8.

⁴⁸ P. Wollen, 'Mappings : Situationists and/or Conceptualists', in *Rewriting Conceptual Art*, ed. Michael Newman and Jon Bird (London: Reaktion, 1999).

⁴⁹ Denis Wood, 'Catalogue of Map Artists', *Cartographic Perspectives*, no. 53 (1 March 2006): 61–68, <https://doi.org/10.14714/CP53.366>.

⁵⁰ Wood, 'Map Art', 5–7.

⁵¹ D. Varanka, 'Interpreting Map Art with a Perspective Learned from J.M. Blaut', *Cartographic Perspectives*, no. 53 (2006): 15.

⁵² Denis Cosgrove, 'Maps, Mapping, Modernity: Art and Cartography in the Twentieth Century', *Imago Mundi* 57, no. 1 (February 2005): 35–54, <https://doi.org/10.1080/0308569042000289824>.

⁵³ Jeremy W. Crampton, 'Cartography: Performative, Participatory, Political', *Progress in Human Geography* 33, no. 6 (December 2009): 840–48, <https://doi.org/10.1177/0309132508105000>.

⁵⁴ John Krygier, 'Jake Barton's Performance Maps: An Essay', *Cartographic Perspectives*, no. 53 (1 March 2006): 41–50, <https://doi.org/10.14714/CP53.361>.

on the place where they took place on a map of New York. Reading these stories animated and encouraged other visitors to share their stories as well, resulting in a collection of over 2000 stories at the end of the two weeks festival. For 'City of Memory' pen and paper were replaced with digital means of sharing stories (allowing for the possibility to add sound videos), thereby creating an online archive that users have access to at all times. This interaction, as was already seen with the 'Memory Maps', lead to more stories being shared and invites people to rethink their understanding of difference and of living in the city. For Barton this signifies that "*there are millions of cities*", "*each created inside of an individual New Yorker.*"⁵⁵ For John Krygier it's "*this idea of space as a living memory that gives Barton's maps [...] their remarkable inner life. Touch them and they come alive, which is what Barton insists the space of the city is, alive.*"⁵⁶

For Barton the goal is to link space and stories, and in doing so making these memories come alive. He chose maps for the portrayal of space as they would allow him to cover bigger scales, although he was never particularly interested in maps as such (which distinguishes him from many other Map Art artists). The act of mapping was used as a way to bring people together to interact with each other and to collaborate in their story-telling and sharing. Unlike for Lynch, who wanted to use the results of his 'speaking landscapes' (which mapped residents' comments about the city) to inform planners and to enable them to get a better understanding of how residents experience the city, for Barton it is not "*people-to-experts but people-to-people, and so it's not about enabling experts but about building and enriching community.*"⁵⁷ More in line with Barton's aims is the work of William Bunge, who would map quantifiable facts (e.g. rat-bitten babies in Detroit, car accidents) in order for communities (not authorities or planners) to be better able to solve their problems. Whereas Lynch and Bunge focus on the extraction of information, Barton puts emphasis on performative aspects, i.e. the sharing of stories.

Barton had many more ideas for collaborative and performative Map Art, some of which were realized (e.g. in the Museum of Collective Memory; further examples can be seen on his website localprojects.net), while others did not make it beyond the planning phase. An example for the latter is his idea of an 'Emotional Map' that wanted to offer a new perspective on "here", which no longer would have been a fixed place that memories could be attached to but would have created new neighbourhoods based on emotions. A digital map with a classical neighbourhood view could have been turned into "*neighbourhoods of narration*" grouped by emotions rather than locations, thereby dissolving the objective city and destabilizing "*fixed social and spatial categories, all common to maps, pushing us toward an extremely fluid and highly social view of existence*".⁵⁸

British artist, designer and educator Christian Nold did realize his version of an emotional map in the city of Stockport by creating a map that displays the emotions, opinions and desires of local people. For two months volunteers would walk freely through the city, while their emotional arousal in relation to the place they were at was measured. This arousal would then be represented on the map with columns of different heights, depending on the level of arousal. In a related exercise, the project

⁵⁵ Barton as quoted in Krygier, 41.

⁵⁶ Krygier, 42.

⁵⁷ Krygier, 44.

⁵⁸ Krygier, 47; 48.

leaders asked over 200 residents to draw their reactions to a number of provocations put before them, all of which were related to life in Stockport. These 'drawing provocations' and the results of the 'emotion mapping' were then put together in the 'Stockport Emotion Map'. (see Figure 1-4). The map and the conversations that took place while creating it helped identify several issues of concern, i.e. the marginalised history of Stockport, the hidden river Mersey, monolithic shopping, semi-public space and the isolation of young people, which can be tackled by collective effort.⁵⁹

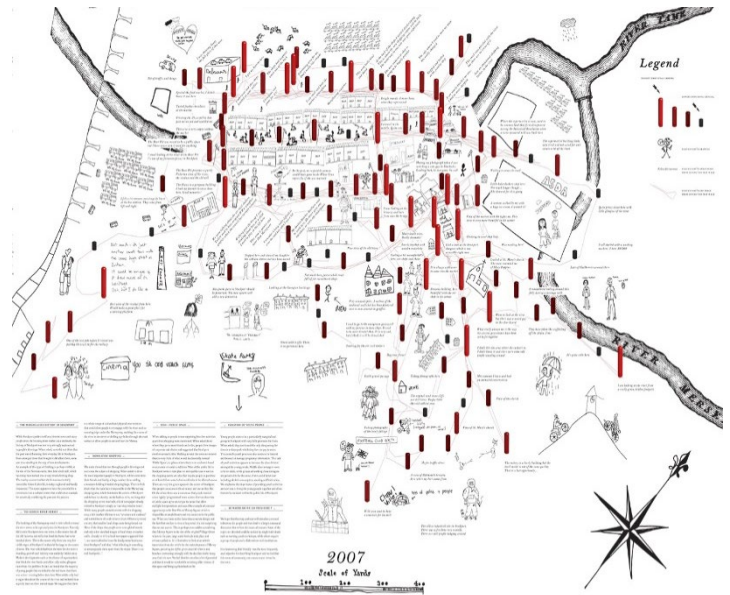


Figure 1-4. Stockport Emotion Map, Credit: Christian Nold

Mapping collective perceptions of the city has the potential to offer insights into how people view the city and how its residents are influenced by (in)justice. Using the map as intermediary tool to engage citizens helps to understand how spaces are constructed in their minds and in which ways they are being used by people. Map Art is created in a social context. People are not merely subjects of a mirror-like representation but become part of the mapping process. These maps are produced as dynamic, enacted and collaborative work of subjects and "open possibilities for a coming together of action and theory in critical praxis."⁶⁰ The interactive process encourages people to share more easily their views and experiences and to engage with contrasting opinions, thereby creating results that are collections of various subjectivities. Bringing all of this together creates a Map Art that reflects the diversity of our societies and offers insights for planners, architects and decision-makers by adding a level of information that goes beyond mere statistics and data.

4.2.2 Mapping Multiplicities: expanding the mapping to a wider scale

From the mid-20th century onward the technological developments and use of digital computing methods triggered epistemological shifts toward utilizing advanced technical tools for analysis and visualization of data. Technological and quantitative methods that have been deployed within the positivist stance overly fetishize objectivity of advanced instruments and, to be able to measure and improve accuracy, often reduce the complexity of human life thereby losing individuality of the subject or taking away its social context. In opposition to this, since the 1980s, critics have challenged these approaches and the tendency of the state to use them for a concentration of power.

Michel Foucault's notion of Panopticism well describes these technological means as instruments of disciplinary power that allow for the control of space, supervision and surveillance, making the individual visible to the state while enabling the power itself to be invisible. Foucault explains the micro-physics of power not as a static property accumulated only in the hand of the bourgeoisie (in

⁵⁹ Christian Nold, 'Stockport Emotion Map', accessed 9 July 2014, <http://stockport.emotionmap.net/map.htm>.

⁶⁰ C. Perkins, 'Performative and Embodied Mapping', In: Kitchin, R., Thrift, N, editor(s). International Encyclopaedia of Human Geography. London: Elsevier; 2009. p. 126-132., 2009, 7, <https://www.escholar.manchester.ac.uk/uk-ac-man-scw-67082>.

contrast to the Marxist structural view), but as a dynamic field with a multiplicity of heterogeneous points where tensions are heightened. Each point (consisting of people, inventions and material objects) is interwoven in a network of singular and evolving relations to other points; these power relations can be both restraining and emancipating.⁶¹ The awareness of these relations and the position of the subject (individual) within them allows for the possibility of intervention within the network of power relations.

In his read of Foucault, Gilles Deleuze elicits the concept of diagram which he defines as “a map, a cartography that is coextensive with the whole social field.” These maps are “a display of the relations between forces [... they are] highly unstable or fluid [...] intersocial and constantly evolving [...] constituting hundreds of points of emergence or creativity.”⁶² In Deleuze’s definition, a map (or diagram) is an apparatus that enables the visualization, exploration and therefore understanding of the social field that can reveal the openness and the possibility of intervention inherent to every social relation - because of the power that exist within each individual.

Fredric Jameson is one of the theorists who also indicated the need for an aesthetics that can complement “the incapacity of our minds, [...] to map the great global multinational and decentered communicational network in which we find ourselves caught as individual subjects.”⁶³ He envisaged mapping as a collective pedagogy that can represent and reveal the relations between the abstract knowledge of global realities with the imaginary figures that orient our daily experience.⁶⁴ He demands for radically new forms of mapping that can produce a clearer understanding of contemporary social space (social hierarchies, divides, class, roles, values) that seeks to provide the individual subject with some new heightened sense of its place in the global system and methods which enable new political and social organization. As Jameson suggests, only through a new mode of representing,

*“we may again begin to grasp our positioning as individual and collective subjects and regain a capacity to act and struggle which is at present neutralized by our spatial as well as our social confusion.”*⁶⁵

Going beyond the deterministic viewpoint of traditional Marxism, French critical thinking in the 1970s and 80s brought about the understanding that through a deliberate U-turn or counter-application of the mapping - the very force that makes social hierarchies and power cohere - it is possible to intervene, resist and eventually dissolve them, without entirely giving up the description of dominant structures. The epistemological and technological breakthrough of 20th century, gave rise to new forms of critical counter-cartography and dissident mapping, able to use the very aesthetics and methods of network maps but in opposition to their normal application.⁶⁶ In the following I intend to review some of these approaches that are particularly useful for broadening the overall mapping experiments and for mapping the multiplicity of qualities that emerge in the first two phases.

⁶¹ Michel Foucault, *Discipline and Punish: The Birth of the Prison*, Reprint, Penguin Social Sciences (London: Penguin Books, 1991).

⁶² Gilles Deleuze and Seán Hand, *Foucault* (Minneapolis: University of Minnesota Press, 1988), 34–36.

⁶³ Fredric Jameson, *Postmodernism, or, The Cultural Logic of Late Capitalism*, 2. print. in pbk., [Nachdr.] (London: Verso, 2007), 44.

⁶⁴ Holmes, ‘Counter Cartographies’, 22.

⁶⁵ Jameson, *Postmodernism, or, The Cultural Logic of Late Capitalism*, 54.

⁶⁶ Holmes, ‘Counter Cartographies’, 22.

Geographic information system, participation and rhizome

Since the 1960s GIS technologies provide powerful tool for the analysis and visualization of spatial data and have been employed in planning tasks such as land use zoning, transportation and economic development.⁶⁷ In these analyses, economic measures and geographical references provide the analyst with a clear view of the location and conditions of different areas. However, GIS and similar quantitative and distributive approaches to mapping have received criticism from various standpoints. From a Marxist viewpoint these approaches were criticised because the information is collected and examined from point of view of the powerful to serve power and to hide *bourgeois* interests.⁶⁸ Postmodern/poststructuralist standpoints also criticize this viewpoint as it treats people as universal and atomistic actors without considering them in a network of social and historical context. Young's *politics of difference* and Fraser's approach to *recognition* (as discussed in chapter 2) emphasize the necessity of the recognition of difference in a network of social relations for a complete understanding of (in)justice which are often disregarded in quantitative methods.

John Pickles in the book *Ground Truth* examines GIS from a critical social theory standpoint. Pickles argues that GIS is based on changing political and economic relations of production and consumption and it is as likely to enhance inequality as equality outcomes. Therefore "*GIS requires a critical theory reflecting sustained interrogation*"⁶⁹ of the means with which GIS and similar technologies reshape social relations. He questions the way the GIS software, hardware and data are being used in extremely quantitative ways and demands a solution to reconfigure GIS and similar technologies to respond to more bottom-up approaches rather than top-down *instrumentally derived logics*.

From the 1990s the field of *public participation geographic information systems* (PPGIS)⁷⁰ has been proposed for the methods that GIS technology could support public participation and include a diverse method to make GIS and other spatial decision-making tools available and accessible by people who are influenced by it. This includes a variety of approaches toward GIS and participation including PPGIS, PGIS (Participatory GIS) and VGI (volunteered geographic information).⁷¹

The overall purpose of PPGIS is to engage the public through the GIS application in order to improve transparency and influence government policy. PPGIS is essentially a framework in which the public is involved in the decision making by integrating local knowledge, thus attempting to contextualize GIS.⁷² PPGIS acts like a bridge between government planning authorities and active communities to make decisions on future land use. On this aspect PPGIS has also been criticised for being a tool that justifies decisions with public support rather than being a truly liberating mapmaking process. As Wood puts it, PPGIS and GIS are only replacing old cartography, and in that sense, they are "*intensely hegemonic, hardly public, and anything but participatory*."⁷³

⁶⁷ Rina Ghose and William Huxhold, 'The Role of Multi-Scalar GIS-Based Indicators Studies in Formulating Neighborhood Planning Policy', *URISA Journal* 14, no. 2 (2002): 5-17.

⁶⁸ Peter Marcuse et al., eds., *Searching for the Just City: Debates in Urban Theory and Practice*, 1st ed. (Routledge, 2009), 4-5.

⁶⁹ John Pickles, ed., *Ground Truth: The Social Implications of Geographic Information Systems*, Mappings (New York: Guilford Press, 1995), 25.

⁷⁰ The term PPGIS is used in 1996 National Center of Geographic information and Analysis (NCGIA)

⁷¹ Karen K. Kemp, ed., *Encyclopedia of Geographic Information Science* (Los Angeles: SAGE Publications, 2008), 352-55.

⁷² Renee Sieber, 'Public Participation Geographic Information Systems: A Literature Review and Framework', *Annals of the Association of American Geographers* 96, no. 3 (September 2006): 491-507, <https://doi.org/10.1111/j.1467-8306.2006.00702.x>.

⁷³ Wood, Fels, and Krygier, *Rethinking the Power of Maps*, 160.

The criticism of GIS and PPGIS methods can be put into two main categories. One is that local knowledge is granted less legitimacy than quantitative methods and spatial knowledge. Partly because the experiences and knowledge of individuals involved in the process are inconsistent and vary based on their class, ethnicity, gender and social values. This heterogeneity and multiplicity of knowledge produced through participants' everyday experiences are too ambiguous for purely quantitative input, are often in contradiction with the overall goals envisaged by PPGIS and are therefore very often difficult to realize in practice.⁷⁴ Although strengthening community identity and social capital might be part of the process of PPGIS, they are subordinate to the quality of data gathered, decisions and representation of the spatial data. The maps that are produced through PPGIS are subjected to the same standards (e.g. homogenous groups, normalised distribution and controlled environment) as quantitative data collection for GIS, which often results in a disregard for minorities and negligence of marginalised and silent groups.⁷⁵ Another problem is the open access to information, which creates number of barriers for grassroot groups, including lack of financial means to acquire data, lack of appropriate skills or expertise for the use/analysis of data or simply lack of awareness that such data resources exist.⁷⁶ Moreover, political and institutional policies in relation to freedom of information and the relationship between government and people are also some of the factors that affect data access and sharing policies from local to international levels.

However, technological breakthroughs and the spread of the internet and smart phones has lent momentum to new shifts in geospatial technologies. There has been a move away from national governments as the main producer of the data to a multi-producer model where data is generated through the combined resources of state, private entities and citizens, each producing a 'patchwork' of data sets.⁷⁷ It has become more difficult to differentiate between data producer and user while most of the partakers act as both. There are many examples of such applications, e.g. Google Maps, Here maps, Bing Maps, Waze⁷⁸ and so on, which allow free and user-friendly access to spatial data. Free access to the data and its services is often financed by advertisements, which raises questions on the neutrality of search engines, misrepresentation and misuse of data.⁷⁹ However, crowdsourced websites and opensource programs such as OpenStreetMap and Wikimapia are considered more neutral players with the goal to empower people to access global spatial data. The direct access to spatial data and the opensource use of it enables further 'democratisation of GIS' and has the potential to liberate the use of spatial data to the benefit of the general public, so that people can also communicate, collaborate and voluntarily share data.

Another progress was the introduction of two-way interaction among users which has been often called Web 2.0. These platforms provide a framework in which individuals can collaborate and contribute information through the internet, embraced by Social Networking Sites (SNS) such as

⁷⁴ Sarah Elwood, 'Negotiating Knowledge Production: The Everyday Inclusions, Exclusions, and Contradictions of Participatory GIS Research*', *The Professional Geographer* 58, no. 2 (May 2006): 197–208, <https://doi.org/10.1111/j.1467-9272.2006.00526.x>.

⁷⁵ Greg Brown and Marketta Kytta, 'Key Issues and Research Priorities for Public Participation GIS (PPGIS): A Synthesis Based on Empirical Research', *Applied Geography* 46 (January 2014): 126–125, <https://doi.org/10.1016/j.apgeog.2013.11.004>.

⁷⁶ Sarah Elwood, 'Grassroots Groups as Stakeholders in Spatial Data Infrastructures: Challenges and Opportunities for Local Data Development and Sharing', *International Journal of Geographical Information Science* 22, no. 1 (January 2008): 71–90, <https://doi.org/10.1080/13658810701348971>.

⁷⁷ Sarah Elwood, 'Geographic Information Science: Emerging Research on the Societal Implications of the Geospatial Web', *Progress in Human Geography* 34, no. 3 (June 2010): 349–57, <https://doi.org/10.1177/0309132509340711>.

⁷⁸ 'Bing Maps', Bing Maps, accessed 5 December 2017, <https://www.bing.com/maps/>; 'HERE WeGo', HERE WeGo, accessed 5 December 2017, <https://wego.here.com/>; 'Free Community-Based GPS, Maps & Traffic Navigation App | Waze', accessed 5 December 2017, <https://www.waze.com/>.

⁷⁹ European Commission recent antitrust bill fines Google for abusing its dominance as search engine. For more information please see 'European Commission - PRESS RELEASES - Press Release - Antitrust: Commission Fines Google €2.42 Billion for Abusing Dominance as Search Engine by Giving Illegal Advantage to Own Comparison Shopping Service', accessed 5 December 2017, http://europa.eu/rapid/press-release_IP-17-1784_en.htm.

Facebook, Twitter, Instagram and wikis. Through Web 2.0, internet became a medium for individuals to share stories, statements, news, opinions, pictures and many other sensory data – that are georeferenced through the GPS activated smartphones. The possibility of interaction very quickly enabled horizontal expansion of social organisations.

The 2011 movements in Tunisia, Egypt and other Arab countries which are known as 'Arab Spring', are one of the examples of these horizontal social connections. The upsurges that broke out one after the other exposed relations that went beyond national borders. Indeed, they were all related, not in a conventional manner, but through SNS and smart devices that enabled the connections and communications not only among men, students and young people, but also elderly, women and every other citizen regardless of their ethnicity, religion, class or gender. The internet network offered a new model of connectivity that was not confined to a small group of computer users but has become a widely open communal space with serious practical functionality. Many of the protest were organised and spread through the SNS by young people, however, ideas, tactics and political messages from people who did not have access to the internet were freely shared online by anonymous writers.⁸⁰

In this way SNS resemble Deleuze and Guattari's notion of 'rhizome' which refers to the way the structure of the social organization expands horizontally as opposed to vertically. That is to say, rhizome resists hierarchical relationship like those of a tree (roots, trunk and leaves relation) but instead the rhizomatic network allows for a horizontal extension through which external ideas, opinions, people and many other qualities can enter and become connected, thus embracing multiplicity and heterogeneity of cultural and social engagement. The rhizomatic relations have become more evident and can be found everywhere since *A Thousand of Plateaus* was written. The permeation of these horizontal social dynamics has made the old systems obsolete and the valorisation of semiotic structures has been replaced with more functional aims and utilization of connections and interaction. Therefore, rhizomatic relations offer a great possibility to complement distributive and quantitative processes by revealing relations of qualitative and subjective multiplicity of often heterogeneous knowledge, produced as a result of everyday life experience of people. In this way they become useful for mapping (in)justice.

To map (in)justice in the city and urban neighbourhoods we need an overarching mapping method that can represent and analyse not only distributive aspects but also recognise various experiences and social values of inhabitants. Limiting the mapping and understanding of (in)justice to one or the other, as Fraser⁸¹ points out, can lead to a rather unjust distribution of wealth or lack of recognition of diverse social values; either way the map and the understanding of (in)justice would be incomplete.

GIS, PPGIS and similar technologies enable quantitative analysis of spatial and economic data. They offer a holistic top-down perspective of distributive (in)justice and its spatiality in the city; however, they struggle to incorporate complex and heterogenous information that arise from diverse social

⁸⁰ Sabiha Gire, 'THE ROLE OF SOCIAL MEDIA IN THE ARAB SPRING | Pangaea Journal', accessed 28 September 2017, <https://sites.stedwards.edu/pangaea/the-role-of-social-media-in-the-arab-spring/>; 'World Development Book Case Study: The Role of Social Networking in the Arab Spring -- New Internationalist', accessed 28 September 2017, <https://newint.org/books/reference/world-development/case-studies/social-networking-in-the-arab-spring/>.

⁸¹ As discussed in Chapter 2, For further information please Nancy Fraser, *Redistribution or Recognition?: A Political-Philosophical Exchange* (London ; New York: Verso, 2003).

values or tend to omit marginalised and silent groups that are often underrepresented or considered insignificant in quantitative-aggregated data.

Rhizomatic connections and relational mapping can offer a possible way to complement GIS or PPGIS and incorporate these, often heterogeneous, qualities and aspects that emerge from engaging local knowledge of people and various ways they experience injustice based on their class, ethnicities, race gender and so on. In this way people and their experiences are no longer excluded but instead determine the mapping. Through mapping the multiplicities of (in)justice we can begin to create a more complete picture and map of how, where and by whom (in)justices are experienced in the city.

Line and relations

The convergence of easy access to the internet, availability of global positioning systems (GPS) in smart devices, interactivity of users and internet in the Web 2.0 platform have enabled a vast number of people to contribute in the production of spatial information. The capability of smart devices to act as sensory devices enables every individual to act as a sensor.⁸² For example, websites and applications such as Instagram, Flickr, Facebook and Google maps allow users to post georeferenced photographs on the map which are easily accessible on the internet. Moreover, applications such as Sky Dark or WU WEATHER use the sensitivity of the smart phone screen to measure the atmospheric pressure, while relying on users' reports on the local conditions to map the weather of the entire globe. Citizens' reports have become increasingly common; Waze, for example, is a community-based traffic and navigation application which receives information based on the velocity of its users but also their reports on road congestion, road condition, speed cameras, and police controls and offers navigation suggestions based on these reports. From here the number of applications with a similar approach (i.e. users are also the producers of the data) increases exponentially. The multiplicity of the data that is produced through these various applications shows the size of the information that can potentially be gathered in relation to city spaces and offers a potential way for inhabitants to express their experiences of (in)justice in the city.

Although the GPS system allows for easier navigation and production of spatial data, it nevertheless raises question on the security and surveillance of users. Individual movements, opinions, stories and pictures are traces in the global system of satellites that are archived on the website servers. In response to the military origin of GPS and its surveillance capability, Brian Holmes emphasises on the importance of "*social subversion*" and aesthetics of "*dissident experience*". Holmes argues that the advantage of GPS is its capability to enable an "*inscription of the individual, a geodetic tracery of individual difference*".⁸³ In this way it is possible to once again put the trace of individual differences and experiences on the map without losing its sense and subjectivity in the hyper-rationalist grid. One beautiful precedent is the 'RealTime' project of Waag Society (Figure 1-6) produced with artists

⁸² Michael F. Goodchild, 'Citizens as Sensors: The World of Volunteered Geography', *GeoJournal* 69, no. 4 (30 November 2007): 211–21, <https://doi.org/10.1007/s10708-007-9111-y>.

⁸³ 'Brian Holmes - Drifting Through the Grid | Surveillance | Global Positioning System', Scribd, accessed 7 December 2016, <https://www.scribd.com/document/57872191/Brian-Holmes-Drifting-Through-the-Grid>.

Esther Polak and Jeroen Kee.⁸⁴ Their map starts with an empty black background, then gradually, lines that represent traces of movement for individual participants (gathered by GPS) start to shape a map of Amsterdam. Similar maps were produced by Nikita Barsukov⁸⁵ and Nathan Yau⁸⁶ that represent traces of individuals' running routes in major European and American cities (Figure 1-5). These maps are a 'diary of traces' that represent a very subjective and individual map that each citizen creates by their movements through the city. Some of the individual routes overlap, leaving thicker lines that represent major nodes of the city while others stay thinner, representing more private, more personal routes of an individual.

A good counterexample to macro-scale global tracing systems is the use of line and tracing in a study of autistic children conducted by French psychiatrist Fernand Deligny. To better understand autistic children, who were considered as undisciplinable or impossible to understand by conventional practices primarily due to the absence of communication through speech, Deligny sought other, rather unconventional (for his era) ways of communication and study. Through following the children, tracing their movement in space and drawing their line of movement on paper he formulated a mapping which captured traces of their walks, activities, events, gestures and emotions (Figure 1-7⁸⁷). By superimposing several layers of these lines, a pattern of behaviour emerged that revealed points of interest where children dawdled, clapped their hands or expressed emotions. Deligny referred to these spaces as magnetic fields that particularly sensitized autistic children. He stated that these lines are "an affair of cartography. They compose us, as they compose our map."

⁸⁸ Doina Petrescu describes Deligny's drawings as a 'geo-analysis' that

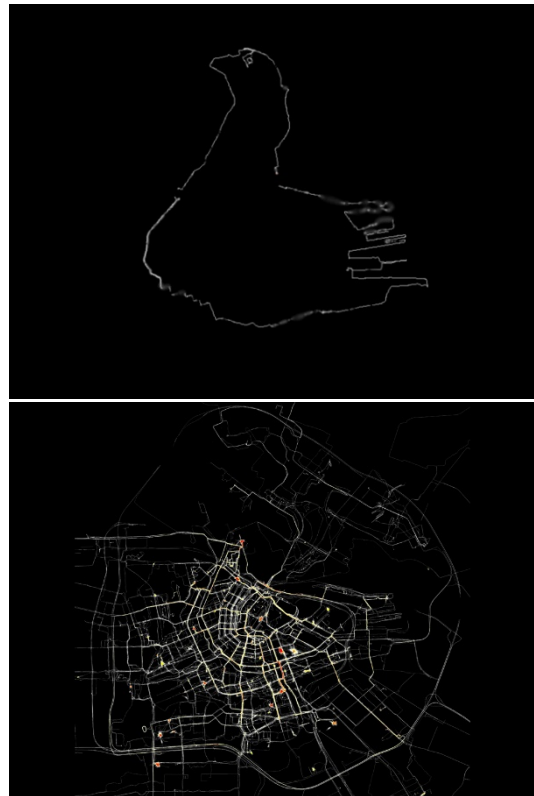


Figure 1-6 'RealTime' project of Waag Society. Top: one individual, bottom: Overlap of all participants. Source: <http://realtime.waag.org/>

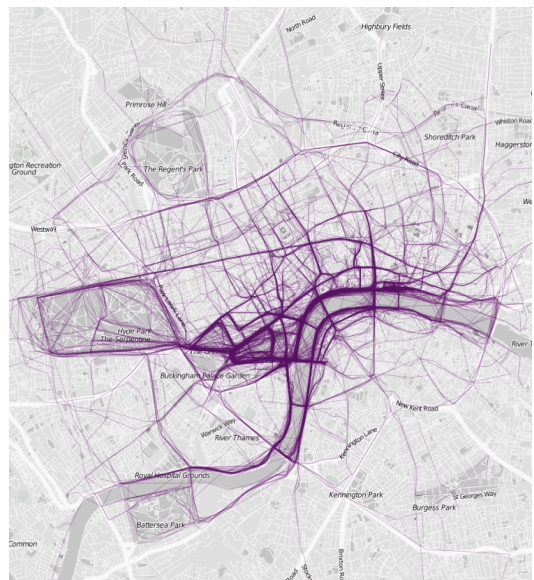


Figure 1-5 'where people run' by Nathan Yau Source: <https://flowingdata.com/where-people-run/>

⁸⁴ Waag Society, 'Waag Society', InteractiveResource, Waag Society, accessed 7 December 2016, <https://waag.org/en/project/amsterdam-realtime>.

⁸⁵ 'Maps of Running Routes in European Cities. — A Blog of Nikita Barsukov', accessed 31 March 2016, <http://barsukov.net/visualisation/2014/07/25/endomondo/>.

⁸⁶ Nathan Yau, 'Where People Run in Major Cities', *FlowingData* (blog), 5 February 2014, <http://flowingdata.com/2014/02/05/where-people-run/>.

⁸⁷ Fernand Deligny, Sandra Alvarez de Toledo, and Cyril le Roy, *Cartes et lignes d'erre: Maps and wander lines; traces du réseau de Fernand Deligny 1969 - 1979* (Paris: L'Arachnéen, 2013).

⁸⁸ Gilles Deleuze and Félix Guattari, *A Thousand Plateaus Capitalism and Schizophrenia*, trans. Brian Massumi (London: Continuum, 2008), 203.

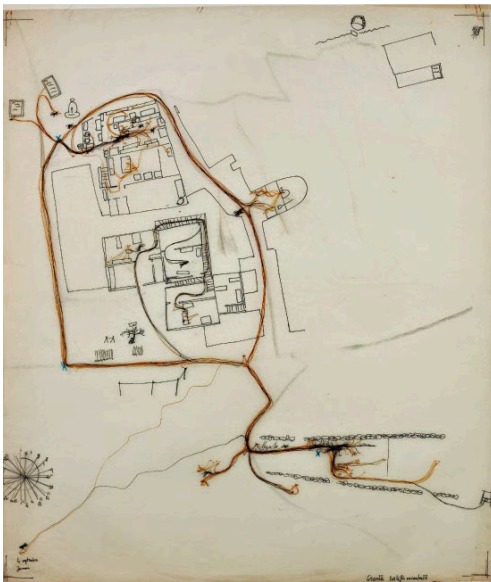
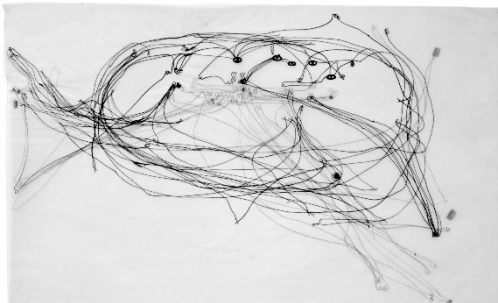
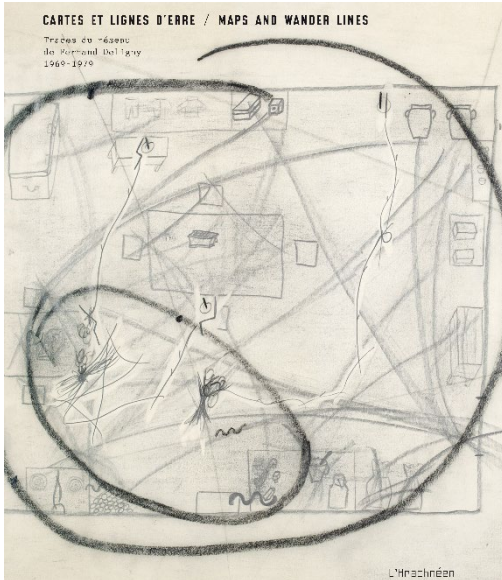


Figure 1-7 Map of children by Deligny Source: *Cartes et lignes d'erre: Maps and wander lines*

“is not merely pedagogy or therapy but an attempt to invent through mapping ways of being and sharing with ‘the other’, the radically other, the one who does not live in the same manner, who does not have the same means of communication, the same logics, the same gestures: the autistic, the idiot, the fool ...”⁸⁹

Deligny’s practice of tracing and line was used by Deleuze and Guattari as an example to describe what they mean by mapping. The mapping that is based on the analysis of ‘lines’, a map which represents relationships between the psyche, the body and everyday life. They use ‘line’ as the basis of their thinking to explicate their metaphoric cartography of social milieu, which they use to emphasise on the relationality of the reality and how everything is in a relationship with one another (for which they give the example of an orchid and a wasp) and how mapping (as part of this relationship) should reflect these relations.

Deleuze and Guattari are not the only ones who recognise relationality of space. Lefebvre in his explanation of spaces remarks, “[Social] space is not a thing among other things, nor a product among other products: rather, it subsumes things produced, and encompasses their interrelationships in their coexistence and simultaneity – their relative order and/or relative disorder.”⁹⁰ Castells’ notion of ‘the network society’ also exposes how the global network of finance and real-time flow of capital among the various ‘nodes’ of networked enterprises are based on a relational understanding of capitalist space. He explains horizontal structures empowered by Information technology (IT) and inter-relations between identity, space, time, capital and society that enables power to disseminate horizontally and to be present as a decentralised entity.⁹¹ This horizontal expansion and networked structure of power stands in opposition to the hierarchical and structural Marxist standpoint and rather aligns with Foucault’s notion of micro-physics of power.

Mark Lombardi’s drawings are beautiful examples of the use of line as a way to represent relations among various power

⁸⁹ Doina Petrescu, ‘The Indeterminate Mapping of the Common’, *Field: A Free Journal of Architecture* 1 (2007): 90.

⁹⁰ Henri Lefebvre, *The production of space* (Oxford, OX, UK; Cambridge, Mass., USA: Blackwell, 1991), 73.

⁹¹ See: Manuel Castells, ‘Informationalism, Networks, and the Network Society: A Theoretical Blueprint’, in *The Network Society*, by Manuel Castells (Edward Elgar Publishing, 2004), <https://doi.org/10.4337/9781845421663.00010>; Manuel Castells, *The Rise of the Network Society*, 2nd ed., with a new pref, *The Information Age : Economy, Society, and Culture*, v. 1 (Chichester, West Sussex ; Malden, MA: Wiley-Blackwell, 2010).

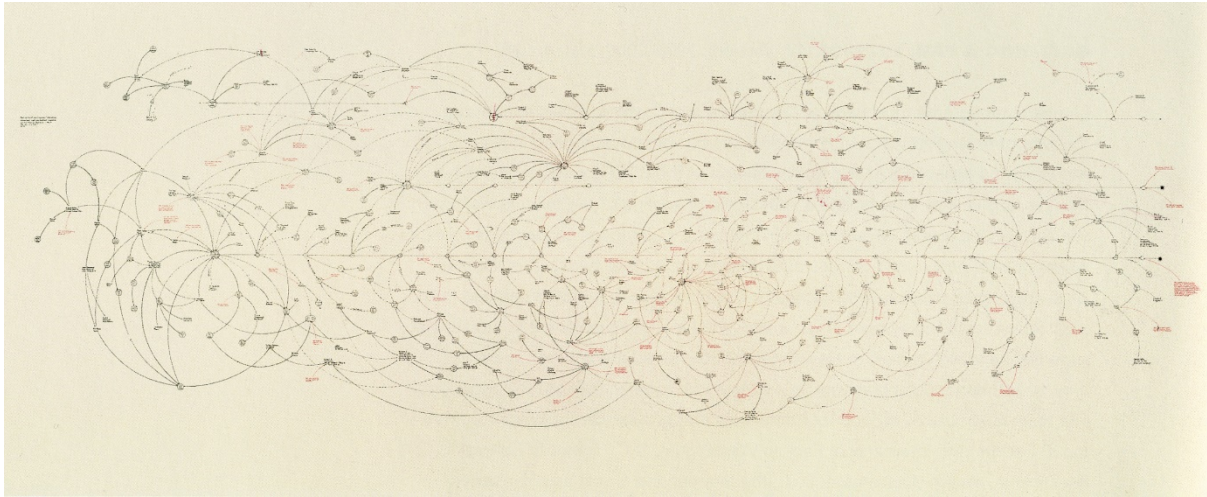


Figure 1-8 BCCI-ICIC & FAB, 1972-91 (4th Version), 1996-2000 Source: Whitney Museum of American Art website

actors such as financial institution, political organisations or even organised crime. He gave the name “Narrative Structures” to his drawings, since they represent networks of lines and notations that together tell a story. His narration visualizes interrelation among trading companies, international banks and governments through which he brings to light money flows, their connection to criminal conduct and corruption (Figure 1-8).⁹² The analysis of connections and linkages among these various nodes enabled him therefore to explore and map relations among political, economic and social forces.

Lombardi’s use of lines drawn by pencil or ink on paper, particularly in his earlier sketches, (Figure 1-9) represent a fundamental way in which human thought processes take place. He used these diagrams first as a form of mental mapping to make sense of a mass of data he gathered from newspapers, TV, radio and other media. It was then that he discovered the aesthetic power of line and relational analysis to represent a more coherent visual story of the multiplicity of relations within the capitalist machine. Lombardi’s work can be considered as a forerunner of many similar approaches and influenced activist and artists groups such as Futurefarmers⁹³ and Bureau d’Etudes. Josh On, who created an interactive map called “They Rule”⁹⁴, draws the lines of connection among CEOs of multinational companies and corporation leaders (Figure 1-10). This map attempts to offer a view of the connections among the ‘ruling class’, providing relations and details of 500 companies which control much of the economy and which are directed or owned by some of the most powerful individuals.

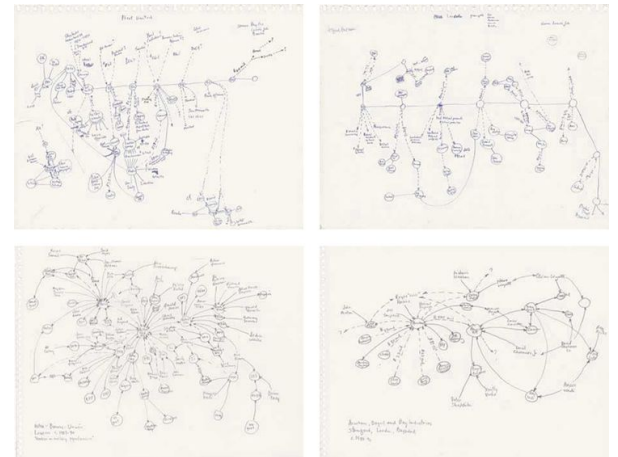


Figure 1-9 Initial hand drawings by Lombardi Source: Pierogi Gallery website

⁹² For more information please see Robert Carleton Hobbs and Independent Curators International, *Mark Lombardi: Global Networks* (New York: Independent Curators International, 2004).

⁹³ ‘[Http://Futurefarmers.Com/](http://Futurefarmers.Com/)’, accessed 11 December 2017, <http://futurefarmers.com/>.

⁹⁴ Josh On, ‘[Http://Theyrule.Net/Drupal/](http://Theyrule.Net/Drupal/)’, accessed 11 December 2017, <http://theyrule.net/drupal/>.

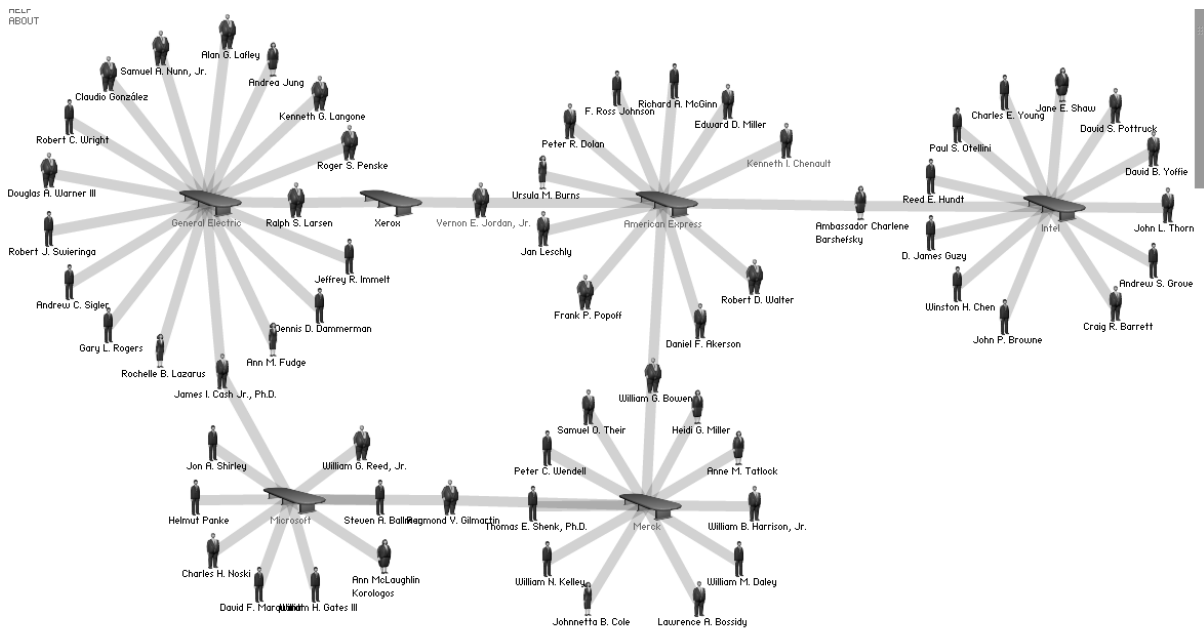


Figure 1-10 Relations of Microsoft, Merck, American Express, Intel and U.S General Election Members Source: theyrule.net

Along similar lines the French artist/activist group Bureau d'Etudes⁹⁵ has been producing comprehensive maps that provide visual analyses of transnational social, political and economic systems. Through their mapping practice they attempt to expose the 'power lines' that often stay invisible under the complex political and economic structure of capitalist organism. The purpose of their work is to provide information via a map that enables citizens to navigate through the immense network of regulatory bodies, financial institutions, think tanks, corporations, intelligence agencies, law enforcement and etc. In this way they intend to empower an emancipatory new citizenship by revealing the system in its totality, thus, allowing citizens to discover points of entrance and dissident.⁹⁶

One example of their many maps is the 'European Norms of World Production' (Figure 1-11) which illustrates the complex regulatory body and power structure of the European Union, with the European Commission at its centre, the European Parliament and Council close by, and all of them encircled by the Commission's powerful Directorates, which in turn are entangled in a web of related agencies, agreements and business associations. Like all of their diagrams, at the first glance this map is difficult to read because of the amount of details it entails; nevertheless, the seemingly endless repetition of looping lines and links captivate the eye into following these details, and by stepping back from these intricate maps one is presented with a whole complex system in a single gaze. Claude Lévi-Strauss stated, "to understand a real object in its totality, we always tend to work from its parts. The resistance it offers us is overcome by dividing it. Reduction in scale reverses this situation. Being smaller, the object as a whole seems less formidable."⁹⁷ Bureau d'Etudes research and diagrams show a way to utilize maps as a tool to open the public eye on the methods and means used by private businesses and power houses to lobby and influence the priorities of the Brussels bureaucratic

⁹⁵ Bureau d'études, 'Https://Bureaudetudes.Org/, Cartography of Political, Industrial, Research, Social, Power Networks.', Bureau d'Etudes, accessed 11 December 2017, <https://bureaudetudes.org/>.

⁹⁶ Bureau D'Etudes, *An Atlas of Agendas: Mapping the Power, Mapping the Commons*, ed. Freek Lomme, Onomatopoe 88 (Eindhoven: Onomatopoe, 2014), 40–50.

⁹⁷ Claude Lévi-Strauss quoted in Holmes, 'Counter Cartographies', 23.

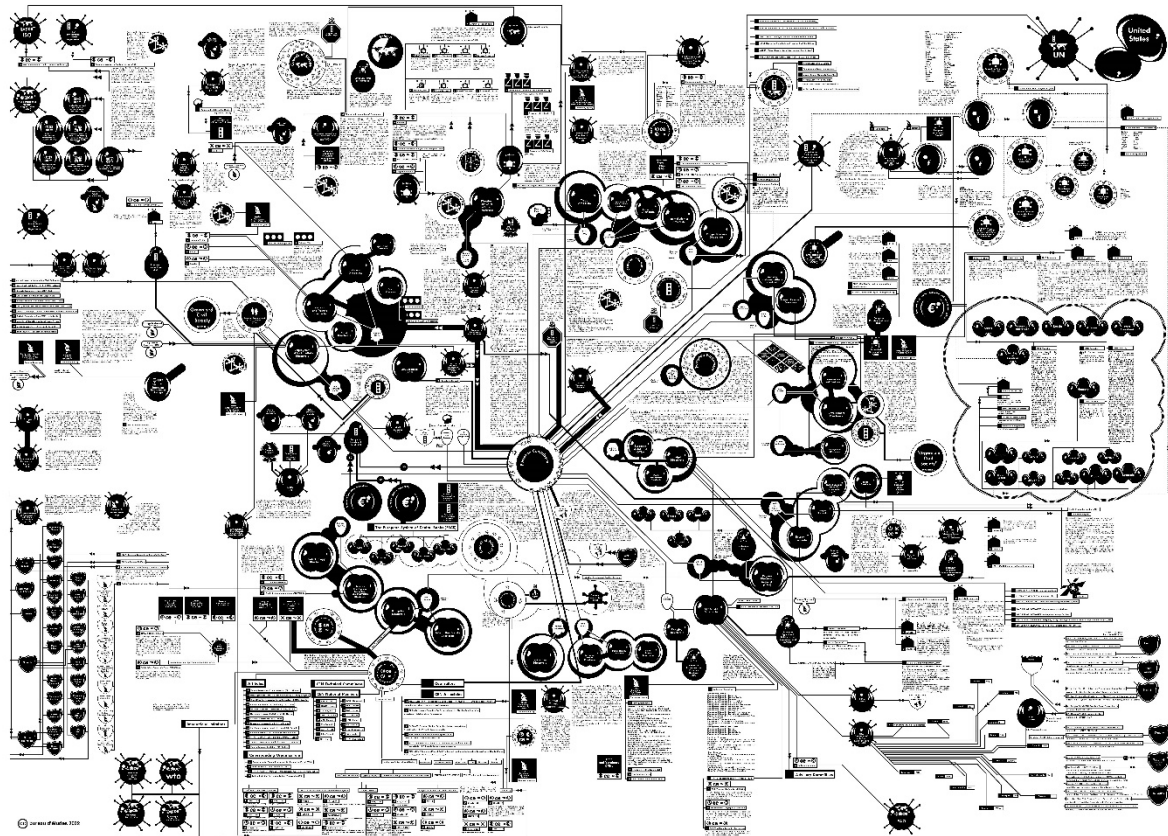


Figure 1-11 European Norms of World Production by Bureau d'études, Nicco et alii, Source: bureaudetudes.org

system. These maps 'deconstruct the complex machine' in order to enable people, researchers and activists 'to reconstruct them unconventionally'.

The maps produced by Lombardi, They Rule and Bureau d'Etudes attempt to critically represent the hierarchically concentrated political, economic, social and military power by tracing the relationships and connection lines among the various power nodes. They visualise the macro-scale of power relations from regional to international. In contrast, Deligny's maps of tracing occur on the micro-scale of everyday life and take place in the close proximity of map-maker and subject. As Doina Petrescu (cofounder of aaa) points out, Deligny use maps to show what is 'the common' and what is shared in space. Derived from Deligny's notion of mapping the common, Petrescu puts forward the question "*how to use mapping to understand and eventually create more relationships between those who inhabit space?*"⁹⁸, which she responds to with the ECObox project, an example of meso-mapping of communities drawn by atelier d'architecture autogéré (aaa).⁹⁹

ECObox was initiated in 2011 and developed by (aaa) in an area with a diverse population and a high rate of unemployment in the North of Paris known as La Chapelle. ECObox is a collectively owned, self-managed practice. It uses recycled and left-over materials to reshape and take advantage of vacant spaces in the city through a series of temporary uses and activities that engage local residents. The project encourages 'biodiversity' comprising of various specialists, students and mostly residents with a wide variety of life styles, empowering them to take control of the city spaces and re-

⁹⁸ Petrescu, 'The Indeterminate Mapping of the Common', 96.

⁹⁹ Studio for Self-managed Architecture, <http://www.urbantactics.org/>

appropriating them to fit their needs. Influenced by Deleuze and Guattari's notion of 'rhizome', the ECObox grows horizontally and stays agile, allowing them many times to relocate to different sites and engage new users.

Petrescu mentions that without knowing where the project will take them, they have tried to react to circumstances by following a number of principles, namely *participation, informality, horizontality and micro-politics*. She defines their practice as *urban tactics* referring to reshaping leftover land with everyday life activities. aaa's concept of tactics has been derived from De Certeau's notion thereof, as a form of resistance of city inhabitants against capitalist consumption through activities of everyday life. Akin to De Certeau's concept of mobility, temporariness and opportunistic character of tactics, aaa's spatial devices involve dismantling constructions, temporary occupations and mobile architecture.¹⁰⁰ What they call 'tactical devices' (e.g. mobile kitchens, media modules, events, art installation, etc) are objects, tools and events that have been made or planned collectively and were transformed into devices to generate *social and spatial assemblages*, or *agencements*.¹⁰¹ A difference between De Certeau and aaa is the latter's emphasis on the relational dimension of their practice and use of these mobile devices to increase the connectedness among inhabitants.

Inspired by Deligny's tracing practice and Deleuze and Guattari's concept of relationality and line to map the social field, aaa describe their purpose for mapping as "to draw networks which size a socio-spatial entity in formation, continually moving, reforming new networks and refining relations and to conceive spatial constructions."¹⁰² For aaa map making evolves in the process and shows relations

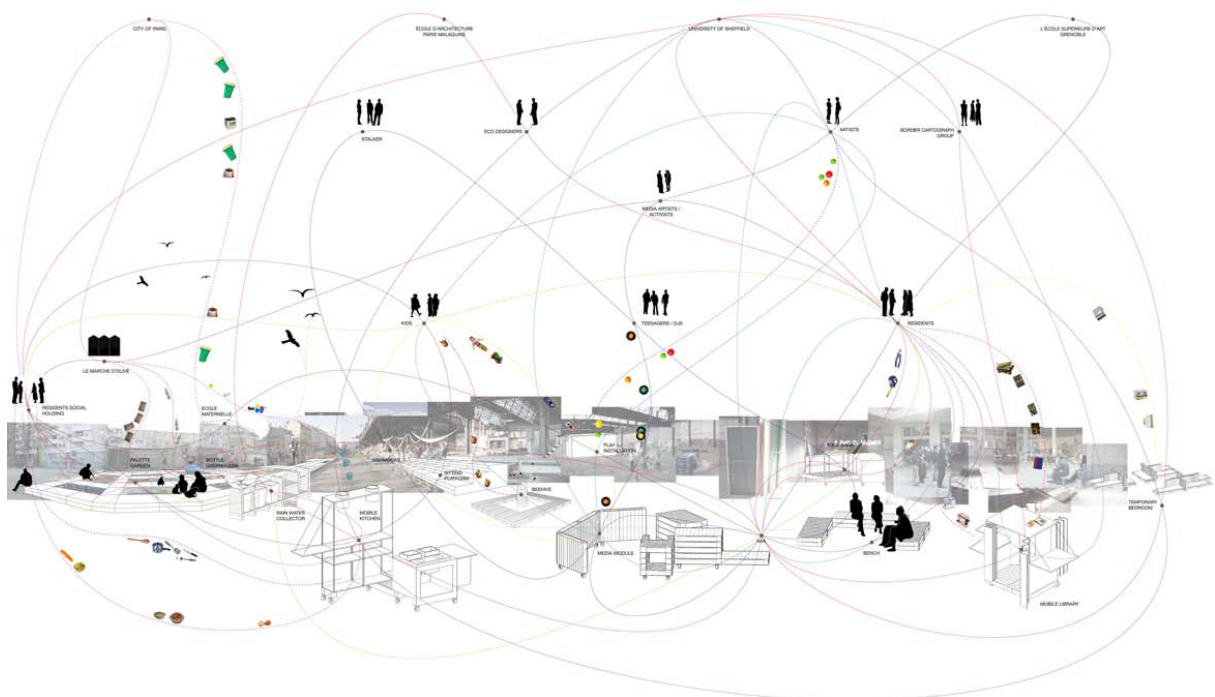


Figure 1-12. Lines represent relations and processes generated by the spatial configurations and mobile devices of ECObox by aaa. Source: Petrescu, 'The Indeterminate Mapping of the Common'

¹⁰⁰ Michel de Certeau, *The Practice of Everyday Life* (University of California Press, 2011).

¹⁰¹ Agencements defined as dynamic connection between elements derived from Deleuze and Guattari, *A Thousand Plateaus Capitalism and Schizophrenia*, 3-4.

¹⁰² Doina Petrescu, 'Relationscapes: Mapping Agencies of Relational Practice in Architecture', *City, Culture and Society* 3, no. 2 (June 2012): 138, <https://doi.org/10.1016/j.ccs.2012.06.011>.

between people and space; lines are not a reflection of forms, objects or measure of distance, but become a *milieux* to embody forces, intensities, relations, effects and power (Figure 1-12).

For Ecobox mapping is not only a representational apparatus but is also part of the process that evolves from within with mapper. Petrescu states that “*the role of this mapping was not only to 'represent' or 'conceive' but to enhance experience.*”¹⁰³ The mapper is included in the project, putting him/herself on the level of *agencements*, and is involved in its making as well as being its subject.

Figure 1-13 shows various lines and loops connecting people, groups, places, events, objects, mobile and tactical devices. Individuals or groups become part of various groups and networks or even a ‘node’ to connect different networks. As the project started in 2001 with self-building (illustrated with red lines), it then spread to other activities like ‘cooking’ (purple), ‘leisure’ (yellow), ‘local economy’ (beige), etc. It shows how somebody who joined for leisure purposes at the beginning becomes part of other networks and gets embedded more deeply in other roles, for instance as political activists when the project site faced eviction.



Figure 1-13 lines and loops connecting people, groups, places, events, objects, mobile and tactical devices by aaa Source: Petrescu, ‘The Indeterminate Mapping of the Common’

Therefore, the mapping process for aaa works as a *plug-in*¹⁰⁴ to help them make visible facts that would have otherwise stayed unseen and unarticulated. It helps them to understand relations between objects, mobile and tactical devices, people, local groups, space and changes in the roles and activities of individuals as the project evolves.

As shown above, Deligny’s tracings of autistic children, aaa’s relational maps of communities, groups, devices, and places as well as Lombardi and Bureau d’Etudes’ power lines that expose the complex relations among political, economic and social forces all demonstrate how the notion of line and relationality, as theorized by Deleuze and Guattari, can offer a mapping of multi-layer, complex or even heterogeneous aspects. While this approach can be applied to map the entirety of the social field, it becomes essential in the context of mapping the multiplicity of qualities that influence inhabitants’ experiences of (in)justice.

Inspired by the examples discussed above I will further explain the conceptual framework of Mapping Multiplicities in the following subsection.

¹⁰³ Petrescu, 137.

¹⁰⁴ Latour mentions *plug-ins* are devices which help to reveal what is invisible or virtual. It can also create agencies. Bruno Latour, *Reassembling the Social: An Introduction to Actor-Network-Theory*, Clarendon Lectures in Management Studies (Oxford ; New York: Oxford University Press, 2005), 207.

4.2.3 Conceptual framework for Mapping Multiplicity

As discussed, and through the precedents provided above, Deleuze and Guattari's notions of rhizome, line and cartography offer a useful approach to map the multiplicity of heterogeneous qualities and themes that constitute (in)justice in the city. The qualities that were explored and discussed in the first two mapping experiments (phase 1&2) can be expanded (broadened) through the Mapping Multiplicity program that has been developed on the basis of the concept of rhizome.¹⁰⁵

Deleuze and Guattari enumerated six characteristics for rhizome: *Connection & Heterogeneity*: any point of a rhizome can be connected to any other; *Asignifying Rupture*: the rhizome can be broken off at any point and start up again; *Cartography & Decalomania*: rhizome is a map, rather than a tracing, because it is entirely oriented toward an experimentation in contact with the real; it is open and can be entered at any point and finally *Multiplicity*.¹⁰⁶ These are all characteristics that Mapping Multiplicity of (in)justice shares with the concept of rhizome. Thus, via the properties of rhizome, relationality and line, I will elucidate the conceptual foundation of the Mapping Multiplicity program through which it becomes possible to broaden the mapping of inhabitants' experience of (in)justice without reductions and flattening of its multiplicity.

It is useful to start with the idea of assemblage and its properties. I borrow the word *assemblage* from Brian Massumi's translation of *agencement* as introduced by Deleuze and Guattari to refer to active relations and connections existing between singularities. By describing assemblage Deleuze defines various characteristics of the rhizome, some of which I will refer to in the following.

*"In assemblages, you find states of things, bodies, various combinations of bodies, hodgepodges [...] Assemblages exist, but they indeed have component parts that serve as criteria and allow the various assemblages to be qualified."*¹⁰⁷

Similarly, Mapping Multiplicity is composed of various parts and bodies, representing heterogeneous themes and qualities (i.e. social, political, spatial qualities) that enter into relations with one another. Traditionally these aspects were understood, studied, mapped or addressed in separate disciplines and through separate processes. Mapping Multiplicity goes beyond this disciplinary parting to map the city through various combinations of *bodies* and *hodgepodges*. The issue of (in)justice, similar to assemblage, is by its very nature a heterogeneous *hodgepodge*. It exists with different rates of intensity, quality and in various scales¹⁰⁸, scale with the meaning of both distance in space (i.e. topographically) but also composed of components and lesser systems (i.e. topologically). Macro-(in)justice is not more fundamental than micro-(in)justice; instead, (in)justice like any other social reality is "multi-scaled" with experiences of (in)justice taking place at every level and having an influence on each other.¹⁰⁹

¹⁰⁵ In this chapter I mostly focus on discussing the conceptual basis of the Mapping Multiplicity, while the mapping program and its various features are explained in Chapter 6. These concepts and the mapping program become clearer if both these chapters are read in parallel.

¹⁰⁶ Deleuze and Guattari, *A Thousand Plateaus Capitalism and Schizophrenia*, 7–14.

¹⁰⁷ "Hodgepodges are combinations of interpenetrating bodies" Gilles Deleuze and David Lapoujade, *Two Regimes of Madness: Texts and Interviews, 1975-1995*, Semiotext(E) Foreign Agents Series (New York : Cambridge, Mass: Semiotext(E); Distributed by MIT Press, 2007), 177.

¹⁰⁸ (In)justice can take place in multiple scale of micro-level e.g. person, family household; meso-level of community, neighbourhood, village; or macro-level of city, regional, national and international

¹⁰⁹ Manuel De Landa, *A New Philosophy of Society: Assemblage Theory and Social Complexity* (London ; New York: Continuum, 2006), 38–39.

The Mapping Multiplicity attempts to be a resource to address in mapping and through analysis the issue of multiplicity and heterogeneity of qualities within the context of the city whilst yet preserving some notion of being 'structural'. On the understanding of rhizome and assemblage Markus and Saka write,

*"Assemblage seems structural, an object with the materiality and stability of the classic metaphors of structure, but the intent in its aesthetic uses is precisely to undermine such ideas of structure. It generates enduring puzzles about 'process' and 'relationship' rather than leading to systematic understandings of these tropes of classic social theory and the common discourse that it has shaped."*¹¹⁰

What interests me is that although assemblage seems structural, "*the intent in its aesthetic uses is precisely to undermine such ideas of structure.*"¹¹¹ This is because rhizome is a body without organs.

Deleuze and Guattari define Body without Organs (BwO) as an organism comprising assemblages, and therefore various bodies, while lacking a particular organizational or structural principle; thus, it is a body but without any organs. This means (similar to my maps) that each body/stratum can be connected to any of the other bodies/strata and represent their relations. Since it lacks organisation BwO takes away "*precisely the phantasy, and significances and subjectifications as a whole.*"¹¹² The map in this sense is a process, an immanent process, that allows to question hierarchical organizations since it is not subjugated to a particular structure or significance. However, since it is possible to connect any point or body with each other, we can, through this map, create different organisations and therefore produce various interpretations and analyses. Therefore, in the Mapping Multiplicity it becomes possible to analyse the multiplicity of heterogenous qualities without subjectification of the analyses to a particular viewpoint or structure – so as to avoid subjugation to power structures and dominant perspectives.

Moreover, assemblages are made of lines but not just one type of line. A line can change its quality in one body, from being an outline or purely geometrical, to having no outline at all. It can join a body with other lines or depart from it. A line that passes between things, connects them, takes different roles, becomes a location or a social space, takes the form of a building block or street or becomes an opinion, a protest, a suggestion. In short, it is a *line in mutation*, and as Deleuze calls it 'an abstract line'.

*"Just as in painting, assemblages are a bunch of lines. But there are all kinds of lines. Some lines are segments, or segmented; some lines get caught in a rut, or disappear into "black holes"; [...] These creative and vital lines open up an assemblage, rather than close it down. [...] An abstract line is a line with no outlines, a line that passes between things, a line in mutation. [...] [an abstract line] is very much alive, living and creative."*¹¹³

These lines have *multiple entryways*, there is no particular start or end point (is there any starting point to reading a map?), meaning that immediate connections between any of its points are possible. They can be broken at any point and be connected to others or be opened up to *lines of*

¹¹⁰ G. E. Marcus and E. Saka, 'Assemblage', *Theory, Culture & Society* 23, no. 2–3 (1 May 2006): 102, <https://doi.org/10.1177/0263276406062573>.

¹¹¹ Marcus and Saka, 102.

¹¹² Deleuze and Guattari, *A Thousand Plateaus Capitalism and Schizophrenia*, 151.

¹¹³ Deleuze and Lapoujade, *Two Regimes of Madness*, 178.

flight. These lines create and represent relations between these different bodies of the physical, material, social, political and individual, bringing them together - whether heterogeneous or not - in a *plane of consistency*.

“an assemblage is first and foremost what keeps very heterogeneous elements together: e.g. a sound, a gesture, a position, etc., both natural and artificial elements. The problem is one of “consistency” or “coherence,” [...] Even among very different things, an intensive continuity can be found.”¹¹⁴

As mentioned, assemblages comprise homogeneous as well as heterogeneous parts. For example, cities are made out of mosaics of various communities (with diverse economic conditions, ethnicities, values, etc.). Communities share comparatively similar values within groups but a level of contrast exists in intercommunity relations. These heterogeneous and sometimes contradictory values create divisions within cities (e.g. dividing them into uptown and downtown or East and West as in the case of Sheffield) but at the same time, these communities exist in a state of coherence or consistency. Therefore, *plane of consistency* is not the absence of logical contradiction neither of being in harmony but rather about relations among these contrasts. The Mapping Multiplicity attempts to represent these differences of conditions, values, activities and experiences among different collectives.

Moreover, rhizome is an a-centred *multiplicity*. A *multiplicity* is defined as

“has neither subject nor object, only determinations, magnitudes, and dimensions that cannot increase in number without the multiplicity changing in nature (the laws of combination therefore increase in number as the multiplicity grows).”¹¹⁵

Multiplicity arises from *folding* of singularities. It has permeable boundaries that are defined through variations and dimensions that are constantly changing. Deleuze, like his predecessors Friedrich Nietzsche and Henri Bergson, uses this concept to break from the platonic mindset and redefine many of the political and social theory notions (such as language, race, class, gender, society etc.) in opposition to Platonism. In *Bergsonism*, Deleuze distinguishes two types of multiplicity. One is **external multiplicity** “of quantitative differentiation, of difference in degree; it is a numerical multiplicity”.¹¹⁶ This type is related to the distributive aspect of (in)justice. The distributive approaches attempt to address (in)justice through economic means by measuring and analysing the distribution of wealth.¹¹⁷ The (in)justice that they represent shows the quantitative difference of how much/many (multiple of one) of commodities are unequally distributed. The other is the **internal multiplicity** of “qualitative discrimination, of heterogeneity, or of difference in kind; it is a virtual and continuous multiplicity that cannot be reduced to numbers.”¹¹⁸ This type is related to the ‘politics of recognition’ dimension of (in)justice. The Mapping Multiplicity approach complements the quantitative approach by representing qualitative differences of (in)justice. Qualitative differences are difference among the multiples or, in short, multiplicities. This is not the difference in scale but the difference in intensity, force, experience or relations. Akin to Fraser’s notion of the interrelation

¹¹⁴ Deleuze and Lapoujade, 179.

¹¹⁵ Deleuze and Guattari, *A Thousand Plateaus Capitalism and Schizophrenia*, 8.

¹¹⁶ Gilles Deleuze, *Bergsonism* (New York: Zone Books, 1988), 38.

¹¹⁷ The distributive and recognition approach toward (in)justice were discussed in Chapter 2.

¹¹⁸ Deleuze, *Bergsonism*, 38.

between both distributive approach and recognition, Deleuze underlines that both multiplicities *coexist and interpenetrate*.¹¹⁹

It is possible to connect the lines of the Mapping Multiplicity program to the lines of other multiplicities (other plugins, programs and modelling engines as well as other studied units of measuring injustice and inequality) to get a multiplicity of analysis. Then these analyses of (in)justice are corresponding to the subjectification of the related programs and units. As mentioned by Deleuze "*the notion of unity appears only when there is a power takeover in the multiplicity by the signifier or a corresponding subjectification proceeding*."¹²⁰

In brief, Mapping Multiplicity (of (in)justice), is all these lines that constitute an assemblage. It brings together assemblages of distinct parts and pieces that have the capability of producing and reproducing any number of effects, rather than being one strictly organised whole producing one dominant interpretation. Since maps lack organization in the traditional sense, they can bring into their body any number of different elements and they can be plugged into any number of other bodies. The map being an assemblage does not prevent it from containing assemblages within itself or joining new assemblages whether physical, social, virtual, pictorial, political, economic, emotional,...

The aim of developing the Mapping Multiplicity was to create a prototype that has the potential to map the multiplicity of qualities in the city used within just urbanism in particular, and more generally within participatory and alternative planning and design process. By mapping (in)justice through relations among all the different themes and qualities that influence inhabitants' experiences of (in)justice, it goes beyond the hierarchical categorization and vertical distinction between disciplines.

I map (un)just space as relational, meaning that the connections between spaces, whether physical, social or political, show up as intensities, forces and relations. The idea of 'relationality' is subsequent to the issue of (in)justice. Relationality as described by the concept of rhizome enables the map of (in)justice to detach itself from hierarchical formations and dominant-oriented perceptions of the world that put one over and above the other. Thus, relational analysis in the Mapping Multiplicity of (in)justice attempts to be the rejection of dominance and the dissent from hierarchical systems and be rather minor-, peripheral- or marginal-oriented, which is achieved through *gathering, surveying and mapping*.

Deleuze and Guattari use symbiosis in nature as an example of relationality in rhizome, stating that '*orchid and wasp form a rhizome*.' The orchid is not above the wasp. The wasp becomes part of the orchid's territory and vice versa. Orchid and wasp are one assemblage in relation to many other assemblages that make a rhizome.¹²¹ The relations of heterogeneous aspects in the production of (un)just space are mapped through this relationality of the rhizome concept. For example, in the section about qualities of social networks, community, trust and safety in Chapters 5 & 6, the mapping shows that trust facilitates reciprocity and cooperation among residents in the neighbourhood but also collaboration and mutuality help to generate more trust, and therefore social cohesion is accumulated. Later, it was also illustrated that cohesion among neighbours can lubricate

¹¹⁹ Nicholas Tampio, 'Multiplicity', in *Encyclopedia of Political Theory*, by Mark Bevir (2455 Teller Road, Thousand Oaks California 91320 United States: SAGE Publications, Inc., 2010), 1, <https://doi.org/10.4135/9781412958660.n294>.

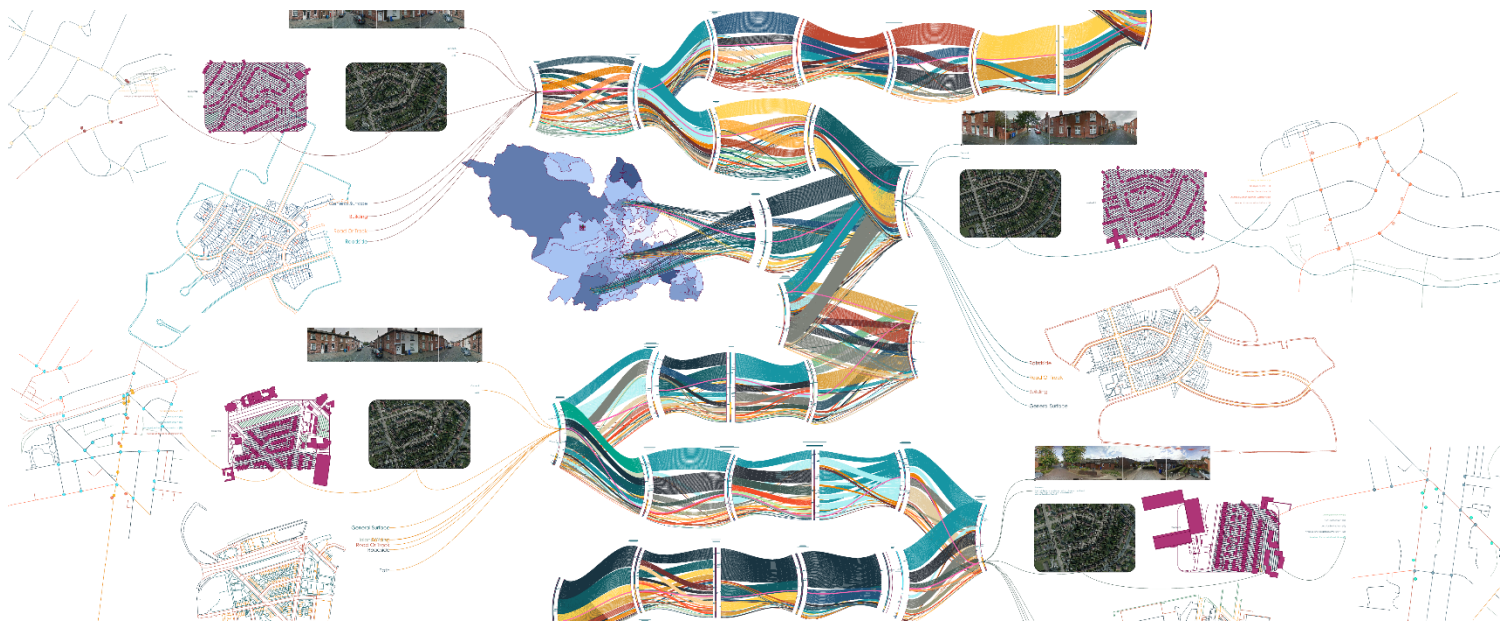
¹²⁰ Deleuze and Guattari, *A Thousand Plateaus Capitalism and Schizophrenia*, 8.

¹²¹ Deleuze and Guattari, 10.

the recognition of different values among people and therefore create a more just space. Same as the orchid and the wasp then reciprocity, trust, social cohesion and (in)justice form a rhizome.

In this way, my mappings are not an image of the world. Maps here form a rhizome with the world, there is a parallel evolution of the map and the world. In this sense Mapping Multiplicity (similar to rhizome) is a process, an immanent process, that allows to question hierarchical organizations; it is not about 'what is' or 'what was' (in)justice but rather 'what can become of it?' This is in opposition to what the logical and systematic understandings of these concepts are in classic social theory and the common discourse that they shaped. Like rhizome, this mapping is always in the middle "intermezzo" and proposes means of rehabilitating the understanding of (in)justice as a dynamic process and enabling situated and creative interventions to respond to it. Thus, injustice here is not mapped as 'this' or 'that' with a definite answer or final-object outcome, but always as 'and ... and ... and ... and ... and ... and ...' (Figure 1-14).

Figure 1-14 Mapping Multiplicity of (in) justice as a rhizome.



4.3 Summary: formulating the overall mapping method

This chapter provided the context for mapping by looking at various concepts, methods and precedents, which helped to formulate the overall mapping method of this thesis. The chapter started by pointing out that spatiality is fundamental in human understanding as it provides a foundation for where our experiences take place. Communicating these spatial experiences happens through the form of a map-like structure. The various ways that different cultures understand space (depending on their worldview) also offer different ways of communication, which in turn result in

diverse ways of producing maps and communicating information. Examples for this include storytelling, singing, performance, poems, art creation, drawing and etc.

I argue that maps are selective, subjective and limited in their accuracy to the level that they omit details. Maps cannot show all there is to know and it is the mapper that identifies what is included or excluded. These properties make maps powerful instruments, loaded with ideology and often used to represent the interest of power. However, having the choice of what and how to map can also be used as a counter-application of mapping in favour of people as opposed to those in power.

It is this critical approach of counter-mapping and taking the perspective of the marginalised that is used for mapping (in)justice in the city. To enable such viewpoint, I do not take complete authority in the map making process but rather share this process with people. Mapping here becomes a collaborative process where people are not just the subject of the map but also its creator. Maps take the perspective of inhabitants and tell the story from their viewpoint, which is in accordance with the feminist stance of this thesis. In this way the mapper can never master the map and neither can he dominate the terrain.

The capability of maps to represent more than just the physical space, to connect, and to relate what might appear to be unrelated and heterogeneous qualities and aspects, while at the same time being able to handle complex, multi-layered information, is considered to be one of the most useful features when mapping (in)justice as experienced by inhabitants in the city.

Further to this, the chapter outlined various philosophies, approaches and mapping precedents that were used to create a vocabulary through which I formulate my own approach to investigate and map inhabitants' experiences of (in)justice in the city. The multi-level approach described in chapter 3 was conducted through three phases of mapping, which were described in the corresponding subsections of this chapter.

Mental mapping, the category under which Storytelling Maps and Map Art fall, is used as a way to map the city as perceived by people, a method which can also be employed to explore qualities and aspects that influence perceptions and experiences of (in)justice. There are many forms in which mental mapping can be represented, such as through drawings and sketches as carried out by Lynch and Awan or artists such as Aozaki or Scalway, or through singing, dancing, narration and storytelling, as was shown with the songlines of Australian Aboriginals and the poems of Shahnameh, both of which were used as a way of representing space and experiences but also to reclaim territories and to resist oppression.

Mimicry practiced by Greenland Inuit was mentioned as a practice to observe, experience and gather information. Inuit fuse, communicate and become one with their environment through imitation and in this manner, mimicry can be used to displace oneself. By doing so, the mapper, researcher or designer practices how to be in a mobile position, be present in the moment, exercise sympathy and try to understand and see through the eyes of those who have been marginalised. These experiences leave their traces in the memory and subjectivity of the mapper and can be just as significant in exploring the aspects that influence experience of (in)justice than other more quantitative metrics.

Storytelling was formulated as a method to gather information on subjectivities and experiences. Storytelling was explained as a sense making process through which people organise and transmit

their everyday life experiences to others and create meaningful relations. In this way, storytelling gives access to internal mental processes and provides a framework to explore elements of the human psyche, complexities and subtleties of human experiences and the way a person perceives the world. Therefore, storytelling can be used as a method to map and explore the qualities and aspects that influence inhabitants' experiences and the way they comprehend (in)justice in the city. Not only is narration of stories a way to communicate information and experiences, but the process of telling a story is also therapeutic and pleasurable for both teller and listener which can enable one to displace oneself.

While storytelling and using art for mapping have a long history, Map Art is a more recent trend. In Map Art, maps are perceived as communicative medium that is produced with an intention to affect behaviour. Through Map Art, artists challenge traditional methods of cartography and the related power structures as well as conventional modes of enquiry and representation and move instead towards a critical understanding of the world.

As was discussed, a practice of Map Art relevant to this research involves collaboration, embodiment, performance and other experiential methods of enquiry. By observing, discussing, participating and performing around the map making process, mapping collective perceptions of the city has the potential to offer insights into how people view the city and how its residents are influenced by (in)justice. This was illustrated with the examples of Jake Barton's 'City of Memory' and Christian Nold's 'Stockport Emotion Map'. Using the map as intermediary tool to engage citizens in a social, interactive context helps to understand how spaces are constructed in their minds and in which ways they are being experienced by people. Throughout the process people are encouraged to share their views and experiences and to engage with contrasting opinions, thereby creating results that are a collection of various subjectivities. Bringing all of this together creates a Map Art that reflects the diversity of our societies and offers additional insights for planners, architects and decision-makers.

While Storytelling Maps focus mainly on on-on-one encounters, Map Art is often the result of collaboration, embodiment, performance and other experiential methods of enquiry. Storytelling Maps and Map Art are proposed as suitable methods to inquire about, collect and map subjectivities and experiences of (in)justice, thus adding a level of information that goes beyond mere statistics and quantitative data. It is for this reason that they have been chosen as methods for the research phases 1 and 2.

After identifying methods to explore subjectivities and experiences for the first two phases of mapping, I looked into ways to expand the mapping of (in)justice on a wider scale. For this purpose, using technological means and computing power can be beneficial. For example SPSS, GIS, PPGIS and similar technologies (arguably the predominant paradigm in current urban planning) offer a more holistic top-down viewpoint of distributive (in)justice and its spatiality in the city; however, as pointed out in the literature, these methods face criticism for over-emphasising on quantitative and distributive methods as well as for struggling to incorporate complex and heterogenous information that arises from engaging people with diverse social values, while having a tendency to omit marginalised and silent groups that are often underrepresented or considered insignificant in quantitatively aggregated data.

To create a more overarching method of mapping (in)justice it is essential to represent and analyse not only distributive aspects but also recognise various experiences and social values of inhabitants.

Limiting the mapping and understanding of (in)justice to one or the other, as points out by Young and Fraser in Chapter 2, can lead to rather unjust distribution of wealth or lack of recognition of diverse social values and in either way the map and understanding of (in)justice would be incomplete.

Various examples on the influence of web 2.0, opensource programming and SNS website that enable rhizomatic and horizontal expansions of social connection were provided. The concepts of line, rhizome and relationality as theorized by Deleuze and Guattari can offer mapping of multi-layer, complex or even heterogeneous aspects, which was shown through several precedents on different scales, such as Deligny's tracing of autistic children which take place on the micro-level of everyday life, aaa's relational mapping of communities, devices and place on the meso-level and Lombardi and Bureau d'Etudes' drawings which reveal, on the macro-level, the relations between political, social and economic forces.

For this reason, Deleuze and Guattari's notion of rhizome and relational mapping was used to conceptualize Mapping Multiplicity as a way to complement distributive and quantitative methods. Mapping Multiplicity (of(in)justice) is composed of various lines that constitute assemblages of discrete parts and pieces that have the capability to represent relations between various, even heterogeneous, fields. In doing so, it attempts to incorporate different qualities and aspects that emerge from engaging local knowledge of people as well as different ways these people experience (in)justice based on their class, ethnicities, race, gender and so on.

Through the practices, concepts and methods discussed in this chapter an overall multi-method mapping approach was developed for this research, which brings together bottom-up and top-down approaches in a dynamic form and allows us to begin creating a more complete picture of how, where and by whom (in)justices are experienced in the city. The next chapter represents the first phase of mapping.

5 An exploration into themes and qualities of (in)justice: Storytelling and Map Art

This chapter presents the first two exploration phases, which are conceptually introduced as a method of mapping the city from the perspective of its residents and of their experience of (in)justice in it, and attempts to address the question *What are the themes and qualities that influence inhabitants' experiences of (in)justice in urban neighbourhoods?* *Storytelling* and *Map Art* were formulated and introduced in the previous chapter as the most suitable techniques for this undertaking.

The chapter starts with explaining the Storytelling mapping procedure as carried out for phase 1 of this research. This is followed by a series of 'stories of (in)justice' as narrated by Sheffield residents and seen from their point of view. Storytelling is used as a way to explore and identify qualities and themes that people associate with their experiences of (in)justice.

The next section of the chapter focuses on Map Art conducted as the phase 2. Map Art is a collaborative, participatory and performative mapping method through which the collective perception of (in)justice in the city is being mapped by building on the themes and qualities identified in phase 1. Thus, in this phase, the individual perspective of inhabitants is replaced by collective viewpoints. Map Art enables an alternative method of engagement, visualizing and eliciting experiential data based on the subjectivity and perception of citizens. After describing the mapping process, I will present the produced Map Arts as well as the insights from the post-mapping discussions held with the participants, which focused on their responses to the map and the qualities that impact their experience of (in)justice. These discussions and qualities will inform the creation of a survey and a mapping tool in phase 3 that expand the overall mapping process to a larger scale whilst still reflecting the subjectivity of residents and being more situated in the local context

The chapter concludes with a summary of the qualities (listed in Table 5-1) discovered in the process and a review of a related literature, followed by a reflection on the mapping experiments conducted in the phase 1&2 of the research.

5.1 Storytelling: individual experiences of (in)justice in Sheffield

To begin the mapping process, I focused in the first phase on the particular construction of Sheffield as a story, a memory and a place as imagined by its residents. I wanted to understand how (in)justice in Sheffield has influenced the urban life experience. What are the traces of (in)justice in the memory of people? What constitutes (in)justice in the mind of Sheffield residents? What are the themes and qualities that influence their experience of (in)justice?

Understanding the internalised processes and experiences of residents can be difficult and conventional methods may not be effective in accessing people's cognitions and perception of (in)justice. As proposed in Chapter 4, storytelling and narration are one of the approaches that enable the exploration of issues that exist beneath the surface. Stories create a framework that allows access

to the complexity of human activities and human affairs, thus enabling the investigation of experiences.¹ Storytelling is a sense-making process, “People think narratively rather than argumentatively or paradigmatically”² and at a basic level we use stories to organise and communicate our experiences to others as well as to form meaningful connections. As was argued, information is recorded, stored and remembered through stories and the storytelling process is ‘cathartic’, ‘purgative’ and ‘pleasurable’ for the teller as well as the listener.³

Therefore, storytelling essentially provides researchers with an apparatus that enables them to explore and examine the ways people experience the world around them and, in this way, displace themselves to the position of others and recognise a phenomenon from their perspective. This mobility in position can generate a critical standpoint as well as appreciation for the position of others. A narrative or a story, similar to a map, is not a reconstruction or a mirror of life but rather “it is a rendition of how life is perceived.”⁴ Accordingly, Storytelling was used here as a method of enquiry to map the experiences of (in)justice and explore themes and qualities that influence such experiences.

5.1.1 Mapping process

The first activity carried out was to make an A1 board sign with the message “Tell me your Sheffield story” (as shown in Figure 5-1). I took the sign to different parts of the Sheffield city centre, including Fargate, Peace Gardens, The Moor street and to the central parts of each case study neighbourhood, i.e. Margetson Cres (Parson Cross), Highfield Square (Highfield) and Hight Street (Dore). Good weather encourages people to come to public places and increases the willingness to participate and spare time. For this reason, the exercise was carried out over 3 weeks during the summer. In total 64 individuals participated in the project, consisting of 54% male and 46% female. In terms of racial demography, the participants were 58% white, 30% Asian and 12% of black ethnic groups. Regarding

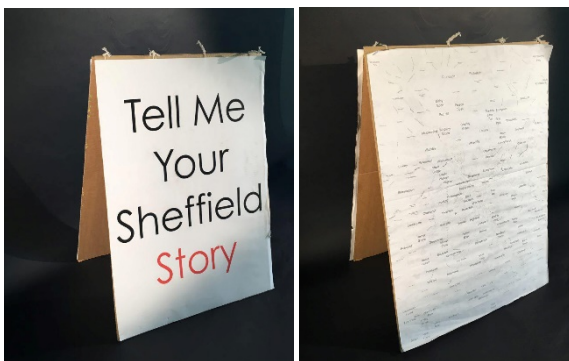


Figure 5-1 the billboards held next to me in order to recruit participants.

age groups, participants included 43% mature (36-59), 44% young (20-35) and 13% elderly (60+) residents.

Alongside the sign board an A1 map of Sheffield was provided for people to easily point at or draw on so participants can locate and discuss the areas that shaped their stories. These areas had sentimental weight and a sense of place and influenced or formed the participants’ view of Sheffield. This method of mapping is closely

¹For more info in this area please see: J. A Bennett and D. F. Detzner, ‘Loneliness in Cultural Context: A Look at the Life History Narratives of Older Southeast Asian Refugee Women In Liebhich’, in *The Narrative Study of Lives*, ed. Ruthellen Josselson and Amia Liblikh, Nachdr., vol. 5, *The Narrative Study of Lives 1* (Newbury Park, Calif.: Sage, 1996); Christopher Booker, *The Seven Basic Plots: Why We Tell Stories* (London ; New York: Continuum, 2004); Leonard Webster and Patricie Mertova, *Using Narrative Inquiry as a Research Method: An Introduction to Using Critical Event Narrative Analysis in Research on Learning and Teaching* (London ; New York: Routledge, 2007).

² Karl E. Weick, *Sensemaking in Organizations*, Foundations for Organizational Science (Thousand Oaks: Sage Publications, 1995), 127.

³ Arch G. Woodside, ‘Brand-Consumer Storytelling Theory and Research: Introduction to a Psychology & Marketing Special Issue’, *Psychology and Marketing* 27, no. 6 (June 2010): 532–33, <https://doi.org/10.1002/mar.20342>.

⁴ Webster and Mertova, *Using Narrative Inquiry as a Research Method*, 3.

associated with an established *cognitive and mental map* often used in the disciplines of geography, art and architecture. It is widely used to visualise spatial knowledge and how maps or spaces are perceived by people. As discussed in Chapter 4, these types of mappings were practiced by designers, planners and artists such as Lynch, Awan, Scalway and Aozaki.⁵ My own maps utilise a similar technique but in contrast to theirs it was not borders or territories, nodes and streets that were drawn on paper; instead the practice of mapping here was represented through stories and text which embody subtle feelings, stories of spaces, circumstances, (in)justices and experiences that formed memories of individual residents.

Another example provided in Chapter 4, was Jake Barton's 'City of Memory', which uses digital methods to pin memories of individual residents to particular places around New York. Barton attempts to link space and memories, and in doing so making these memories come alive. In this way he strives to enable people to share their memories among each other. In contrast to Barton's people-to-people approach, I use storytelling as way to extract information and get a better understanding of how residents experience (in)justice in the city and to use such information to inform the mapper, planner or designer. Another difference is that the connection between the people in City of Memory is passive and indirect, and only takes place by writing and pinning your memories and reading the ones of others on the map, while in my map the participants directly narrate and express themselves to the mapper, allowing for a close connection between teller and listener.

The provided urban plan map represents physical shapes and territories as an aid to remember the areas and spaces while participants are offered the possibility to draw on the map, if they wish to do so, as a supplementary activity to allow easier communication. Thus, the urban plan maps mainly act as a mediating tool to help remember and situate experiences. Storytelling maps are by nature intangible and immaterial, they cannot be drawn and do not have any physical shape, instead, they come as stories or experiences and can only be retold, re-experienced or embodied in form of a story.

5.1.2 Stories and experience of (in)justice in the mind of Sheffield residents

Over the course of the mapping, I spoke with Sheffields from very different social, political and ethnic backgrounds. For each individual Sheffield was a demand for another space and with it also another way space represents (in)justice. The resulting maps where vastly different, both in the way spaces and areas were drawn as well as the expressed memories, stories and experiences.

Most conversations started with a degree of scepticism⁶ toward the purpose of the conversation. In many cases interviewees wanted to know if I worked for an agency, a corporation or any authority. However, presenting them with the information sheet, explaining the research and the method of Storytelling, reassuring the participants' anonymity and confirming that there were no visual or audio recordings helped putting participants at ease and allowed for a more intimate and friendly

⁵ The storytelling mapping method has been more broadly discussed in chapter 4.

⁶ The participants in the experiment showed at the beginning of the conversation a degree of scepticism and distrust toward authorities or corporations. As if the interviewees needed to protect themselves from exploitation of the information they provide. The distrust and cynicism toward authorities was particularly unexpected for me as a researcher (coming from an authoritarian country) observing that the fear of power and exploitation exist among residents of a democratic country (where citizens can express their opinion freely with seemingly no consequences). One of the participants was observing me for a while before approaching, to see if I was being filmed, recorded or observed in any way. When she eventually approached, she mentioned that she was observing me for a while to understand why I was doing this experiment and what the purpose of my work was. Another couple was very conscious about their comments and when the lady described her story she was constantly reminded by her partner standing beside her: "don't tell your address", "don't tell him your name", "don't mention the name of the neighbourhood".

relationship. Conversations that started with a degree of discretion and caution soon became an easy or even spontaneous act. The participant felt more at ease and more open and cooperative. Conversations then started to take on a personal form and participants opened up about spaces charged with personal views; spaces as occupied, remembered and relived in the memory of the subject as a child/ adult/ worker/ woman/ migrant/ local and the events that created such memories.

For some people spaces and experiences of Sheffield were politically charged, for others they bore sentimental memories of former times or everyday journeys to work. For Dan⁷, a retired worker, Sheffield represented resistance, a battleground against the neoliberal system. For him, the memory of Sheffield is filled with miners, steel workers (his parents' generation) and strikes. In his view, injustice can be found throughout the recent history of Sheffield, from a generation of workers who went to war or lost their fathers in the war, to a generation of workers who were suppressed under the neoliberal regime. Here he particularly referred to "Thatcher" and "Tories" and believed that they disfavour Sheffield because it is a "labour city". He mentioned that he used to be actively engaged in many strikes and demonstrations but that "nothing changed [...] only the rich got richer. If you are born poor you are going to stay poor." Distrust for political organisations, the inability to change political and economic conditions and a lack of social mobility are important aspects that contributed to the experience of (in)justice for Dan.

In fact, lack of trust and the perception that people have no power to change the conditions were not only mentioned by Dan but by other participants as well: "We are paid the minimum but always pay our taxes while the rich [people] always find ways to escape it [...] this is the heart of the matter [inequality] and I think there is very little we can do about it" (male, white, mature)⁸.

Political inclination, taxation, lack of trust in and cynicism for the governing organisation and lack of power to change the current situation are all aspects that occasionally came up in the conversations, although many interviewees often felt uncomfortable discussing political matters or mentioned that they "do not know much about that."

Indeed, political and economic conditions were perceived by people as one of the main sources of as well as solutions to (in)justice. The role of people in shaping the political system has an impact on how (in)justices are perceived and addressed.⁹ Active engagement in governing organisations, making sure demands are met and trust in the governing establishment can eventually lead to a more just and cohesive society.¹⁰

Some of the participants expressed their experiences as they formed and took place in the community. Jen, a young single mother, remembers the city through streets and corridors of hospitals. Her 5 year old autistic son was suffering from diabetes. She described that her son suffered and treatments were not effective. Her life in Sheffield has become a constant travel between work, home and hospital. All her childhood memories of markets, friends and playgrounds were replaced

⁷ For the purpose of anonymity, the names of interviewees were changed. However, I use names to describe the subject and to not lose the sentiment, subjectivity and personality of the conversations that took place.

⁸ To situate the interviewees, references are made to their gender, race and approximate age - young (20-35), mature (36-59) and elderly (60+) - and also to any other aspects that can be relevant to the context of the mentioned quotes. (All quotes mentioned were quickly written down in a diary by me without any recording device. To the best of my abilities I wrote the quotations as stated. However, some of the quotes can slightly deviate in the wording but the content of the quotation is same as stated by the interviewee.)

⁹ Gabriel Abraham Almond and Sidney Verba, *The Civic Culture: Political Attitudes and Democracy in Five Nations*, 2016, 261-70, <https://doi.org/10.1515/9781400874569>.

¹⁰ Ade Kearns and Ray Forrest, 'Social Cohesion and Multilevel Urban Governance', *Urban Studies* 37, no. 5-6 (May 2000): 995-1017, <https://doi.org/10.1080/00420980050011208>.

by the constant battle for survival. She explained that Sheffield has turned into corridors with strangers where she can no longer experience a sense of home. For her, the worst part of her experience was that she did not feel supported by the community and neighbours and said "*I don't want more tablets [for her son], I need somebody to care. [...] I tell you my story because nobody is listening.*" She mentioned that she recently moved to a place where the rent was cheaper but that she did not know the neighbours very well yet and wasn't sure if she could trust them. She received emotional support and help from one of her old friends although they lived in different parts of the city. In general, she expressed that she was unhappy and wished to live in better circumstance.

Receiving community support, interaction among neighbours and trust were some of the aspects that were brought several times in the interviews. There were also many positive conversations over the Sheffield community: "*the community is good, people are nice and helpful, that is why I decided to stay in Sheffield*" (male, white, mature). Another man, who moved here from London, believed that he was happier in Sheffield. He mentioned that he can more easily escape city life and take refuge in the green landscapes outside Sheffield and that people are more sociable as conversation and small talks happen with strangers in all corners of the city. Thus, he believed the community was more friendly and happy in contrast with his experience of living in London.

Social interaction, participation in social activities and a sense of community can influence the sense of safety and trust among people.¹¹ Although social networks are nowadays more spatially diffused because of social networking websites, the internet and the increase in mobility, strong and even weak social ties help to create a sense of security, identity and place attachment.¹² When problems can be solved through collective support, people would not feel marginalised, isolated or alone and the society becomes more just and cohesive.¹³

However, not all residents experience their community in the same manner. A community can be accepting and supportive for people who share the same identities (this can be social activities and the cultural values that people bring into an area)¹⁴ but it can also be isolating for those who do not share such values.

Jalal (Iraqi, young, male) who has migrated to the UK and settled in Sheffield five years ago remembered Sheffield with markets and shops in the city (Highfield). He believed that both the city and the country are full of opportunities for him and his wife. He mentioned that he enjoys strolling through shops, but he notices sellers and some individuals changing their attitude whenever he is with his wife; he smiled and said "*because she wears hijab*". For Jalal, the general attitude toward Sheffield was positive but his experiences of (in)justice can be (although very mildly) related to *politics of recognition*. Another interviewee, who was born and grew up in Sheffield (male, young, British-Pakistani), shook his head and told me "*I don't know where to start man, they [people] are not fair to us.*" Unfortunately, he did not elaborate and left the conversation. Monocultural communities gathered around similar social and cultural values with a strong sense of identity can often reject and push back the outsider to these values.¹⁵ It is necessary to create an environment that is accepting

¹¹ Robert D. Putnam, *Bowling Alone: The Collapse and Revival of American Community*, 1. touchstone ed (New York, NY: Simon & Schuster, 2001), 134–48.

¹² Cecilia Henning and Mats Lieberg, 'Strong Ties or Weak Ties? Neighbourhood Networks in a New Perspective', *Scandinavian Housing and Planning Research* 13, no. 1 (January 1996): 3–26, <https://doi.org/10.1080/02815739608730394>.

¹³ Kearns and Forrest, 'Social Cohesion and Multilevel Urban Governance', 1000.

¹⁴ Edward Relph, *Place and Placelessness*, Reprinted, *Research in Planning and Design* 1 (London: Pion Limited, 2008), 33–35, 45.

¹⁵ Francis Fukuyama, *The great disruption: human nature and the reconstitution of social order* (New York, NY: Touchstone, 2000), 27–61.

and comprises more than one identity; where everyone feels part of the community and contributes to it.¹⁶ In this manner diverse social and cultural backgrounds are recognised and social injustices (of recognition) can be addressed.

Furthermore, qualities of services and amenities as well as accessibility to such services can be considered as attributes of (in)justice. Anna, a black British woman, talked about the time she lived with her family in Pitsmoor. A violent incident of a local shop owner (who lost his life due to gun violence), dominated her experience of the neighbourhood. She believed that their neighbours and the community were strong, supportive and meaningful but Pitsmoor never gave her a sense of safety. She was of the opinion that the school in the neighbourhood was not good enough and that she had to study harder in order to be able to move to a better school and live a better life eventually. She explained: "*we didn't have a good school, they are all on the other side of the city [pointing to west]. [...] I had to take long trips every day.*" And when I asked how she knew their schools were not good she pointed out that "*students do not study because some of them think they don't have a future, so they prefer to work and the teachers didn't care so I thought, if I want to have a better life, I need to go somewhere else. [...] We people of colour need to work harder to prove ourselves.*" She drew a jagged line around Pitsmoor as an expression of negative experiences that shaped her life story.

Although services and amenities (e.g. quality schools, shops, supermarkets) exist in the city they can be too unevenly distributed to provide for all neighbourhoods. By making these services accessible with affordable transportation means (e.g. through bus or tram lines) the quality of life can improve for residents.¹⁷

While the city centre is perceived to be higher in density and to offer more services and opportunities, the wider city is seen to be significantly spread out. Thus, living in the city centre, or within reasonable walking or cycling distance from it so as to not depend on public transport, was an important consideration for some interviewees, particularly younger ones, for whom the city centre is pivotal for most social and cultural activities. A lady (young, female, white) who recently moved from Parson Cross to Sheffield City centre mentioned that he loved her family and friends in Parson Cross and visited them often. She said the community was good in Parson Cross although "*it has a bad reputation*". When I asked about the reasons behind moving to the City Centre, she explained that she found the neighbourhood "*boring*" and the neighbours "*nosy*" since everybody knew one another and she wanted to be more independent. Also other participants stated that "*everything is in the centre, outside there are just miles of houses*" (male, young, white), "*the city centre is far and transportation is not good from here*" (female, mature, white, Dore) and that "*city planning doesn't seem coherent between centre and the soundings*" (male, mature, white, Dore). Therefore, connectedness and accessibility to services can be consider as qualities for even (just) development of the city. It should be addressed through an even distribution of services or by providing easy access (affordable and easy transportation) to such services.¹⁸

Some of the physical aspects of the city and neighbourhoods were also noted by participants, for example: "*Trees and beautiful landscape*" (male, young, white) and "*Trees in every direction, it is*

¹⁶ For more info please see: Stein Rokkan, Derek W. Urwin, and European Consortium for Political Research, eds., *The Politics of Territorial Identity: Studies in European Regionalism* (London ; Beverly Hills: SAGE Publications, 1982).

¹⁷ Lyndhurst Brook, 'Research Report 11: Environmental Exclusion Review' (London: Office of the Deputy Prime Minister, 2004).

¹⁸ Emily Talen, 'Neighborhoods as Service Providers: A Methodology for Evaluating Pedestrian Access', *Environment and Planning B: Planning and Design* 30, no. 2 (April 2003): 181–200, <https://doi.org/10.1068/b12977>.

upsetting that they are being cut" (male, mature, white). Easy access to green spaces were often mentioned by the participant as a strong attraction of the city.

Moreover, when mentioning the quality of different neighbourhoods, it was pointed out that "*you can clearly see the difference between east and west. These areas decayed [pointing at east (Don valley area)]*" (female, mature, white). Most of the former industrial areas located on the east side of Sheffield (as mentioned in Chapter 3) still suffer from urban decay as well as a bad reputation for antisocial behaviour. Quality of the buildings and roads, attractiveness of public spaces and safety are some of the aspect noted by participants: "*graffiti and broken windows on empty blocks are not just unattractive but makes you feel unsafe.*" (female, mature, white).

It is worth mentioning that when referring to neighbourhoods a lot of the references and conversations revolved around social and cultural aspects and activities that take place in the neighbourhood while less reference was made to the architectural attractiveness. One of the participants puts this into perspective: "*If I'm going to say I like Sheffield for its city design and architecture or its people, I definitely think people*" (male, white, mature). This could be due to the fact that Sheffield as a "labour city" was historically developed for working class and housing developments for the most part attempted to provide for the basic needs of industrial workers and architectural attractiveness was not considered as the priority of the city development.¹⁹ However, in recent years this trend has changed with more investment coming to city and bringing with it modern buildings to rebrand the city as an international university city as well as a tourist destination with the Peak District national park attracting millions of visitors each year.²⁰

Although many of the conversations pointed to socio-cultural aspects, it is safe to presume that many of the residents' perceptions of neighbourhoods were shaped by people, residents and activities and less by architectural qualities, unless the physical quality of the buildings and public spaces as well as the maintenance and cleanliness of the streets were in a visibly very bad condition. In fact, infrastructural maintenance and cleanliness were considered as top concerns for many residents across the UK.²¹

As presented above, among the participants there were some who would spare more time explaining their stories in length. But also, there were those participants who got involved only briefly for reasons such as not having time or "*nothing much to say.*" They were not keen on drawing or discussing in length and wanted to tell a very short story or express an opinion. However, even a very short participation, similar to a short story, can give a brief sense of what Sheffield or a certain neighbourhood means for each individual.

An elderly lady mentioned Fargate and Castle Market as places that brought back a lot of memories, recalling times when she walked to the city (Castle Market) and she states that she was very unhappy that it was changing. She said "*it [Sheffield] wasn't always like this*". She explained with a sense of nostalgia that "*many people knew each other*" and Sheffield had "*grown*" from a small town into a city that is now full of "strangers".

¹⁹ Ian R. Taylor, Karen Evans, and Penny Fraser, *A Tale of Two Cities: Global Change, Local Feeling, and Everyday Life in the North of England: A Study in Manchester and Sheffield*, International Library of Sociology (London ; New York: Routledge, 1996), 36–45.

²⁰ Gordon Dabinett and Andi Walshaw, 'The State of Sheffield 2014', 2014, 5–11.

²¹ CABE Space, 'Better Civic Buildings and Spaces' (CABE Space, 2002); England) Bartlett School of Architecture and Planning (London, Great Britain, and Office of the Deputy Prime Minister, *Living Places: Caring for Quality*. (London: RIBA, 2004), 25.

Some of the stories have high sentimental value: A middle-aged lady told me her story, saying that *"When I was a little girl my mom used to bring me to Centre, down to Fargate. In the 80s I went to the United States and met my husband. We found out that we are both originally from Sheffield. We got married and we came back and we have been living very happily in Sheffield for 30 years."* When I asked why they decided to come back she said *"We have a good community here. That's all I have to say."*

Summary

This section described the first stage of the exploration of (in)justices. It contextualises the research from the subjective perspective of Sheffield residents and the city is mapped through the lens of their experience of (in)justice. For the first mapping experiment I concentrated on the exploration of aspects and qualities which construct (in)justices in the memory of residents and thus allowed residents to define and identify from their personal standpoint what (in)justice in the city is.

Mapping (in)justices through individual storytelling contributes to the research process in the following ways: First, from a methodological point of view, Storytelling maps facilitate access to the internal processes that form residents' memories and experiences, thus allowing the researcher (or mapmaker) to explore and investigate the way individuals experience (in)justice and its influencing aspects. Moreover, the process of storytelling helps to form a meaningful connection between teller and listener, enabling the researcher to displace him/herself from his/her subjective position and experience the position of others. Hence, in this way the mapmaker (designer/ researcher) does not dominate the map but facilitate its formation.

Second, mapping stories, memories and conversations revealed overall themes that describe where (in)justices are experienced and how they are shaped by various interlinked factors. These themes pose important challenges in relation to the achievement of a more just city, namely:

- Political and economic theme, encompassing aspects such as lack of trust and cynicism toward governing organisations and their responsibility for the unfair distribution of wealth and uneven development of the city; unfair taxation and lack of equal opportunity for all; lack of social mobility since it has become difficult for less advantaged to be able to go up the social ladder; and residents' perception of lacking power to influence political and economic conditions with the believe that people lack the agency or voice to fundamentally change unjust processes.
- Social theme, containing experience of injustice, discrimination and deprivation related to identity (e.g. ethnic, national or religious identity); intolerance and unjust treatment toward those who do not share similar social and cultural values. Some related socio-spatial aspects, comprising aspects such as lacking sense of community, trust and safety among residents, experiencing isolation and not receiving support from the community; accordingly lacking sense of attachment and belonging to the community and experiences of rejection; disagreement among neighbourhood residents.
- Physical theme, covering aspects such as degree of greenery and public spaces; material quality of the buildings, streets and public spaces; maintenance and cleanliness of the area.

These were among some of the themes and qualities that were raised by residents in relation to the experiences of (in)justice. As indicated in the outline of this mapping experiment, focus was placed on exploring how (in)justice in the city was experienced from the individual perspective of the residents. Thus, the purpose of this phase was to be as open and flexible as possible to allow for a widespread exploration of (in)justice and comprising qualities. In order to explore in more depth some of the issues raised by Storytelling Maps (which would not have been possible with this method), these themes and the aspects (qualities) that outlines them will be further discussed and mapped in the next phase.

While the Storytelling Map sets the overall scene of the research from the perspective of the individual milieu and personal sphere of stories and experiences, the following section takes this research forward by using a collaborative mapmaking approach and enriches the research by allowing similar or contrasting experiences to form a collective perception map of (in)justice in the city.

5.2 Map Art: collective subjectivities of (in)justice in Sheffield

The second phase of the research described in this chapter uses a collaborative mapping method which enriches the individual storytelling of the previous phase by moving from a personal, one-angle perspective to a collective, multiple-angle one to further focus on the exploration of qualities and themes discussed previously. In this way the mapping practice broadens the range of information gathered in the map making process. As discussed and shown through different precedents in Chapter 4, art-map creation has the potential to use expressive methods to challenge the boundaries that cartographers have established between their mode of graphical communication and other methods, and through it artists unmask cartographers disguise of maps' *unauthored dispassion* as *neutral objectivity*.²² Moreover, collaboration and co-production of the map with people challenges mapping as a privileged practice in the hand of cartographer. On the basis of this discussion a mixed participatory method of enquiry (including its aesthetic representation) is discussed and proposed under the name *Map Art* for its potential to bring the research project to its aim of eliciting and representing subjective, qualitative data.

Map Art is formulated as a dynamic, enacted and collaborative method. It involves observing, discussing, participating and performing around the map making process. Therefore, Map Art is produced in a social context; people are not merely subjects of a mirror-like representation but become part of the mapping process. In doing so, Map Art challenges traditional methods of cartography and the related power structures by questioning conventional top-down and single-perspective modes of enquiry and representation, moving instead towards a critical understanding of the world. Moreover, using the map as intermediary tool to engage citizens in a social, interactive process helps to understand how spaces are constructed in their minds and in which ways they are experienced by people.

²² Denis Wood, 'Map Art', *Cartographic Perspectives*, no. 53 (1 March 2006): 5–14, <https://doi.org/10.14714/CP53.358>.

The interactive process of art/map creation encourages participation and allows people to be at ease to share their experiences and opinions. It is a map that performs and in turn provokes performance from those who interact with it. By engaging participants in the discussions over the different themes and qualities of (in)justice, the practice allows various subjectivities and diverse (and contrasting) political, social and cultural values to emerge and be discussed. Thus, this phase broadens the exploration of qualities that had been identified in the previous phase and represents where and how these aspects influence residents' experience of (in)justice. The maps (as objects) themselves, although used as the intermediary tool (to engage and interview), also capture and represent subjective data of residents' perceptions of different areas in Sheffield.

In short, Map Art encourages people to share more easily their views and experiences and to engage with similar or contrasting opinions, thereby creating results that are collections of various subjectivities. Bringing all of these together creates a Map Art that reflects the diversity of our societies and offers insights on different ways in which (in)justice is experienced and perceived.

5.2.1 Mapping process

The mapping needs a platform to build upon, therefore, the first move was to use a conventional urban plan of Sheffield as the base. The city map was printed in two formats, one was a 120cm x 120cm canvas for the painting and the other an A3 size printout as a guide in case it became necessary during the conversation to briefly refer to or point at a particular area.

The overall size of the maps derived from the size of a conventional painting board which was sufficiently large for a group of participants to engage with the map while also taking into account the physical space that was available for the exercise, i.e. an average shop size in Sheffield city centre.

After a thorough search of the city for the best possible venue, an empty shop was chosen as the place to produce the maps. The shop is located in Union Street, in the vicinity of the City Council, that is one of the busy streets of Sheffield city centre, connecting Peace Gardens to Moor Street and Moor Market. This location is neutral and is a central hub of the city, where a variety of services



Figure 5-2 Mapping workshop venue

(commercial, entertainment and offices) are provided and which is visited by people from all different backgrounds, ethnicities, demographics and classes. This allowed for a random recruitment of city residents to take part in this mapping experiment. To further encourage the residents of the three case study sites (Parson Cross, Highfield (Sharrow) and Dore) to take part in the mapping process, I invited the residents of these neighbourhoods through contacting the respective community centres, social media website and forums, the list of which I have provided in Appendix II.²³

²³ For further information about the methodology and research method used for this stage please see Chapter 3 on case study methodology, research method and case study sites.

Using an urban plan map as starting point was suitable because it is the most conventional way to represent geographical data known, understood and used by people. By urban plan I mean the conventionally recognised drawing from the top-down view, which represents the outlines of the roads, buildings and names of places. I started the map with the *ordinary*, a basic way of representing, understanding and communicating – at least in the everyday life of people and planners— objective features of the place. At the same time, using this basis as 'given' can create a foundation to go beyond the ordinary without losing sight of the context.

Michel de Certeau differentiates between experiencing the city from above (plan like) and from inside through walking and living in the space. A plan in the conventional way is an objective (yet selective) overview of geometrical shapes and relative locations of places from above. It is not a dance, poem, book or movie that (at least for the most part) represents the experience of the space. However, following the art-making process and post-mapping discussion, as will be pointed out later, challenges this first step of encapsulating the top-down view and attempts to bring together seemingly contrasting viewpoints to relive, re-perform and represent perception of (in)justice in the city.

The map-art making practice is recapturing the experience of the city as perceived by inhabitants simultaneously from far away and above through the plan and colouring, and from within, recalling, discussing and reliving the actual experiences of the place and the subtle feelings of (in)justice as they live, grow, reproduce and disappear. The constant challenge of mapping is the desire to have a general objective understanding of the site as well as the experience that only the actual physical and social milieu of the city can offer.

I decided to use colours to represent data. Therefore, the art project was a map in the shape of a painting. Searching through a variety of precedents and art works, abstract art painting represented itself as a suitable style. It is attractive, colourful and some techniques are simple enough to encourage the public to be engaged in the process without requiring particular painting skills. One technique in this category is Pour Painting, some examples of which can be found in the work of artist Holton Rower²⁴.

Rowers creates his paintings by pouring liquid paint, with variety of complementing or contrasting colours, directly on the surface of the canvas without using tools such as brushes or knives. Most of his paintings started by pouring large quantities of different colours on the centre of the canvas and continuing this until the whole surface of the canvas is filled with the paint.

I used a technique similar to Pour Painting, however, in my maps the spot where the paint was poured is the location of the areas/neighbourhoods that participants named and the colours are representative of the answers that participants gave to a question/topic, therefore representing the participants' perception in relation to that area.

Thus, the mapping here combines art, data visualization, mapping and participation. This process helps bringing together these aspects in the map making process and to create a new data inquiry and representation method. However, this process should not necessarily be limited to painting or colouring as a way to represent and map (in)justice in the city. It is rather the concept of using performance to connect with people and mapping as intermediary tool that is important for this

²⁴ Holton Rower, *Scrap*, ed. JMc & GHB editions, First edition (JMc & GHB editions, 2010); 'Holton Rower', accessed 7 September 2016, <http://holtonrower.com/>.

process; the means of achieving this mixed-method of enquiry can be varied based on the context and creativity of the designers, planners, researchers or mappers.

Each participant was presented with a topic/question as well as an A3 urban plan of Sheffield. The same city plan of Sheffield was also faintly printed with acetone onto the base surface of the canvas (Figure 5-2). Each participant was presented with a printout of a topic/question that additionally had 9 blank spaces on it. To respond to the question/ topic they were asked to fill these blank spaces by naming and ranking up to 9 areas/neighbourhoods from 'most' to 'least' attractive, safe, tolerant, deprived etc. Each of the nine spaces was assigned with a colour, ranging from warm to cold colours – red, pink, orange, yellow, white, green, sky blue, dark blue, violet. In this way, each neighbourhood that would be chosen for example as 'most' would get the same colour. After the participants responded to the question, the assigned colours (25 millilitre of acrylic paint per answer) were instantly poured on the respective areas of the canvas. This process was repeated for every participant until the canvas was entirely covered with paint. As the canvases were a minimum of 120 cm x 120cm it was possible to engage at least 25 participants with each map.

Liquid acrylic paint was used because they do not mix with each other when coming into contact but instead they push each other's surface. This property helped to show every colour (response) on the canvas (map) and if a similar colour was used repeatedly in one area, that colour prevailed.

For instance, on the topic of 'physical aspects of (in)justice', the participants could name up to 9 areas ranking them according to their perception from physically most attractive neighbourhoods to the least attractive ones (Figure 5-5). Then, colder colours (starting with violet, followed by dark blue, sky blue and finally green) were poured on the more attractive areas and warmer colours such as orange, pink and red (in order) were dropped on the least attractive neighbourhoods.

While the liquid evaporates within hours depending on the atmospheric temperature and humidity, the dropped colours stay on the same location of the map. When the paint touches an area, it might find traces of previous droppings and thus connects with them and the paint extends further over the

surface area. Colours push each other and reshape in an area as more paint is poured over the same place or on neighbouring areas. If participants had similar experiences, memories or responses for an area, then the same colour would be dropped repeatedly over this area and therefore slowly one colour (or same colour hue) became more predominant in an area. But if there were contrasting or diverse perceptions of and responses to an area then different colours would push and reshape over and over again to create an amorphous rainbow. Thus, similar to cartograms, the size of the colour on the map can be proportionally equivalent to the number of the responses to same area.



Figure 5-3 Colours push each other and reshape the presentation of the city as perceived.

The painting evolves as if there is some sort of memetic relation between the way colours form and reshape in the painting (map) and the way the viewpoints of the people shape, reshape and change

over various areas of the city. In that way the map becomes a mimesis of the city as perceived collectively by people. The map redrafts over and over again, and changes through a metamorphosis to represent what participants collectively perceive.

This mapping is not unrelated to the earlier mapping of stories as a quest to question the one-way power of the map-maker over the map. One difference to the previous practice is that this map is not the lone personal memory or experience of an individual; through the process more and more responses were added to the map, and by adding the colours a few seconds later, one does not have in front of oneself only one's personal response/perception/experience but a map of one's own response among a network of other responses. And wherever there is unanimity in responses the droppings are larger with more homogeneous colours, and whenever there is disagreement and contrast there are multiple contrasting colours.

When the paint pouring part of mapping ended, interviews, interpretations and justifications for the answers began (Figure 5-4). What participants had in mind while responding to the question and later when interpreting their responses (and the responses of other participants) are two series of activities that are distinguishable. Responses that in some cases were based on intuition or spontaneous reasoning might have been replaced by some other justification, interpretation or reasoning that was supportive or contrasting to the rest of the responses after the initial pouring activity was accomplished. In the post-mapping discussions held with the participants, I asked them to further elaborate their responses and engage in the conversation with other participants or react to responses that were left from previous participants. In this way, after pouring the colours, I started the interviews based on questions I had prepared around the topic of the map. However, I did not restrict the conversations to these questions but rather adapted them based on participants' responses and discussions. A number of these questions are provided in Appendix IV.

The collective mapping practice carried out in the second stage of the research allowed for a further broadening of the findings discovered in the Storytelling Map. By concentrating the interviews and



Figure 5-4 Collaborative mapping and discussions

group discussions on themes explored in the previous chapter, each of the aspects was further discussed and evaluated from the multiple-angles that people from various political, social and cultural backgrounds brought to the discussion. Thus, through the Map Art method, the city in general and the case study sites in particular were mapped and visualised based on the discussions and the artefacts that were produced as a result of this practice.

The mapping experiment was carried out over the course of six separate days with one canvas per topic per day. Accordingly, six Map Arts were produced to discuss different aspects of peoples' perception of (in)justice. In total 96 individuals participated in the project, comprising of 53.7% male and 46.3% female. In terms of racial demography, the spread was 65.3% white, 24.2% Asian and 10.5% black. All age groups were represented in the exercise: 46.3% mature (36-59), 39.9% young (20-35) and 14.7% elderly (60+).

5.2.2 Collective subjectivities of (in)justice in Sheffield

The explored themes and qualities that were identified in the first mapping experiment were further expanded and discussed among residents in the Map Art experiment. The discussions that took place during this exercise revealed six predominant themes under which the mapping insights could be grouped. These themes, which will be discussed in the following subsections, depict (in)justice in the city as produced through subjective interpretations (i.e. perceptions of Sheffield residents) and visualised through Map Art.

5.2.2.1 Physical aspects of (in)justice: attractiveness and maintenance

I wanted to start this mapping experiment with something tangible that could be easily discussed among residents and thus I decided to begin the exercise by focusing on the physical aspects of the city and the different neighbourhoods. For the first Map Art I therefore asked the participants to answer the question "*which areas do you consider to be the most and least attractive?*"

As Figure 5-5 shows, the west, south west, south and centre were perceived as more attractive (illustrated through a combination of cold colours), while the north, north east and east were viewed as relatively less attractive (accumulation of warm colours).²⁵ Around the centre of the map (i.e. city centre), colours start to become more scattered, showing a relative indecisiveness and contrast on the attractiveness of these areas.

As mentioned previously, the first question, i.e. the one handed to the participants as a print out, is the starting point of the collective Map Art process. Additionally, I had prepared a number of interview questions to start conversations around the topic (in this case physical aspects of (in)justice)

²⁵ Violet, dark blue, sky blue, green, white, yellow, orange, pink and red ordered accordingly from the most attractive to the least attractive.

and adapted the questions in relation to the participants' responses; These questions are provided in Appendix IV.²⁶

With these questions I wanted to start the conversation around the topic without limiting participants to just the one specific question at the beginning, so as to be able to find out what the relations and the reasoning behind their responses were. Furthermore, initiating conversations among participants helps to further point out differences and various ways people experience and conceive (in)justices in the city.



Figure 5-5 Areas considered to be the most and least attractive.

Similar to the previous section, the *degree of green spaces* (e.g. number of the trees) were one of the main qualities when considering an area as attractive. It is also clearly shown in the map that the west and south west areas, which have a suburban layout with a higher number of greenery, were perceived as mostly attractive. Comparing Figure 5-5 with a map of green spaces²⁷ in Sheffield we can further observe the relative relation between the size of the green spaces and the perceived attractiveness. Another reason for the attractiveness of these areas is their connection to the Peak District²⁸ national park, which is visited by up to 20 million²⁹ tourists per year. Thus, naturally it is considered as an attractive place for leisure purposes. However, green space is not the only reason for the attractiveness of these areas. The *maintenance* of the area was considered as another important physical aspect for making neighbourhoods attractive. In the conversations, many participants mentioned cleanliness of the street, litter, broken windows and pavements, potholes and graffiti as features of unattractive areas.

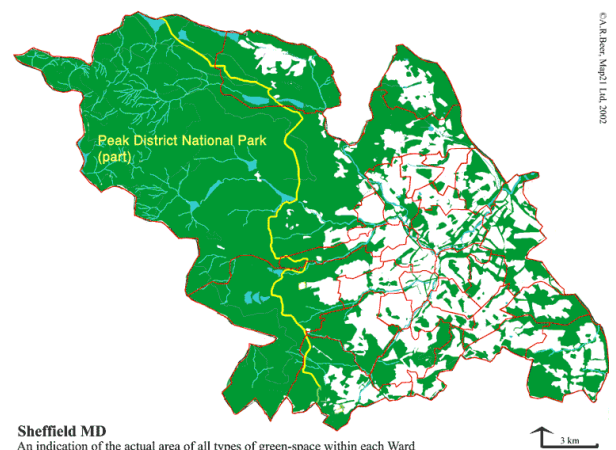


Figure 5-6 Sheffield green areas. Source: Sheffield Greenspace Atlas

There were some areas of disagreement about the quality of architecture and city landmarks among residents. Some of the residents had a more negative opinion about some areas in Sheffield, for example: "*terraced houses on my street mostly look cheap*" (male, young, Middle Eastern, from Sharrow); another participant (male, young, white, from Highfield) mentioned "*all those cheap and*

²⁶ Examples for these questions are: What do you perceive as good and bad physical qualities of a neighbourhood? Why do you think some areas are more attractive than others? Do you perceive the difference in good and bad physical quality of different neighbourhoods as unjust? What other physical aspects do you consider as unjust or unevenly developed in different areas of the city?

²⁷ 'Sheffield Greenspace Atlas', accessed 12 October 2017, http://www.greenstructureplanning.eu/sheff-green/grsp_ward.htm.

²⁸ The Peak District National Park became the first national park in the United Kingdom in 1951. With its proximity to the cities of Manchester and Sheffield and easy access by road and rail, it attracts millions of visitors every year. For more information please read J. Christopher Holloway, *The Business of Tourism*, 7. ed (Harlow: Financial Times Prentice Hall, 2006), 149; David Else, *Britain* (Melbourne, Vic.; London: Lonely Planet, 2003), 42.

²⁹ Else, *Britain*, 42.

nasty tower blocks” referring to the quality of architectural design and materiality of particularly social housings in Sheffield. Lack of *visual complexity* and *mono-functionality* of residential areas were pointed out by some residents, calling parts of Sheffield, “*boring*” or stating “*the town centre is a bit dreary, although when the sun is shining, I think it's rather attractive and nice to hang out in.*” (male, white, young)

Materials and *architectural style* of some of the buildings were also criticised by participants as negative aspects of areas chosen as unattractive. Some remarked “*The choice of building material doesn't appeal to me*” (male, white, young) and “*buildings look rather tacky and tasteless*” (female, white, young). Even some of the *landmarks* were criticised: “*I really dislike 'the cheese grater' during the day, but love it at night*” (female, mature, white), while others have mixed feelings about the architectural style in the city as one mentioned: “*I can't help but find [Sheffield's] buildings and its surrounding area somewhat attractive, in a peculiar kind of post-industrialist way. The big Council office at bottom of the Moor is awful though, it reminds me of a dystopian science fiction novel written in the 60's*” (male, mature, white). Another interviewee responded back to him that “*it [Council building] is a big lump of bricks*” (female, mature, white).

As the map took shape the difference between East and West Sheffield became clearer. In response to why there was this gap and uneven development in Sheffield, many pointed to poverty, and political struggle as explained by one participant: “*The city was poor and had somehow lost its way in what appeared to be a desperate means at surviving the Tory holocaust*” (male, white, mature). Planning and city development were also held responsible: “*If I am going to name some of the reasons, archaic planning legislation, lack of design skills in housebuilding, desire to maximise profit margins, NIMBYSM and so on are all contributing factors*” (male, mature, white). Also, the *density* of some of areas and housing was questioned by one of the residents who had moved to Sheffield some years ago: “*Houses are so shabby in Sheffield and very crowded if I compare them with other countries in EU*” (female, young, student). One of the participants responded back, saying “*I think that houses in the UK are advertised by how many rooms they have [e.g. bedrooms, bathrooms etc] but in the most of Europe, houses and flats are advertised by the square metre. That makes developers to shrink rooms to fit more in a small space*” (male, mature, white). Another participant said “*I remember that in the 90s the planning laws were changed and there were more incentives to develop brownfield sites. [...] I think this is why there are many large apartment blocks in the city centre. This has changed Sheffield dramatically.*” (male, mature, white).

In contrast to some of the aforementioned comments, there were residents who had a positive view of Sheffield. One difference between them was that most of the negative comments came from non-local residents who had moved to Sheffield, while most of the positive comments came from residents who had local ties, families or grew up in Sheffield, showing a *sense of attachment to the place* and emotional ties to the city. As one of the participants put it “*My father worked in the steel industry. The dirt, sounds and smell are part of our identity and the identity of the city.*” (male, mature, white).

Pointing to the red areas (perceived by other participant as unattractive) one of the interviewees mentioned that “*There are some decent spots in some of those areas, and many places, for example Burngreave, Woodhouse and Norfolk have both 'nice bits' and a 'not so nice bits'*” (male, mature, white).

As mentioned, most of the positive responses refer to the accessibility of green spaces and the beautiful landscape in Sheffield but also the *size* of the houses, *services* and *amenities* were considered as positive physical qualities. "*Dore also has some very beautiful, large houses*" and "*Fullwood, Dore or Totley, which are now spread-eagled and blend into each other [...] The prices cost you 2 legs and 3 arms, but you get a great area, good local pubs, shops, easy access to the city and the peaks on your doorstep.*" (male, mature, white)

It became more evident that when referring to positive aspects of Sheffield's neighbourhoods, the participants mostly referred to social aspects, mentioning 'good community' and 'friendly neighbourhood' and evaded mentioning physical characteristics. One of the participants put it into perspective: "*I think it is not so much about the design of the city and buildings in Sheffield [...]. What gives an area its reputation are the people who live there. It is unfair to classify any area as 'unattractive', I reckon, in all areas, you can find nice people, good, honest, hardworking families, but also there are morons, be it benefit scroungers, drunks or druggies*" (male, mature, white).

Kevin Lynch mentions that people's subjectivity and perception of the city are relational and formed through mental images, and thus there should not be only a physical analysis of the city but also an analysis of subjective experiences of these physical qualities by people. Many of the positive comments about Sheffield neighbourhoods blend physical aspects with "*the memory of past experiences*".³⁰ This combination of perception of attractiveness and physical qualities of neighbourhoods is in contrast with the way architects particularly in the deterministic viewpoint define attractiveness through artistic compositions of mass and empty space or ornaments.

5.2.2.2 Social networks, social activities and sense of community

During the first Map Art exercise that focused on the physical aspects of (in)justice some of the qualities most referenced by participants were community, sociability and social network among residents in Sheffield. Thus, sense of community and participation in social activities were the second set of qualities that were discussed in the mapping process. I asked participants to name "which neighbourhoods in your opinion have the most to least sense of community?"³¹ The strongest communities were represented by cold colours (starting with violet and dark blue) and the opposite were represented with warm colours (ending in red). Figure 5-7 indicates that the areas from the city centre toward the south and north east are perceived as with most sense of communities, while areas in the north, north west, west, south west and parts of the east side received less favourable responses.

As previously discussed, almost all the participants in the map making process expressed positive experiences regarding the affability and friendliness of Sheffield's resident. Comments such as "*very friendly*", "*social*" and "*lovely people*" were some of the starting phrases used by participants when discussing Sheffields, particularly by participants who had experiences of living in other cities and felt that Sheffield is the friendlier one (cities names were for example Newcastle, Manchester, Essex and London).

³⁰ Kevin Lynch, *The Image of the City* (Cambridge, Mass.: MIT Press, 1960), 1–2.

³¹ Some of the questions include: what are the qualities that make a neighbourhood community good or bad? What are the unequal/dividing/distinguishing qualities in various communities? Do you think inequality and unjust treatment have an influence on the communities?



Figure 5-7 Sense of community in Sheffield as perceived by residents.

The strong *social network* and *social interaction* among residents is one of the reasons Sheffield is perceived to have a strong community. As it was put forward by one of the participants: "look someone in the eye and they will smile. Often when I stand in the bus stop, people will have small talks. This is not what you will experience in Newcastle or London" (male, mature, white). Social networks can be divided into weak and strong ties. Although strong ties are often favoured, weak ties are argued to have a higher reoccurrence and have a great impact on improving the sense of community, *security*, *ease*, and *place attachment*.³²

Starting with the perceived positive qualities of neighbourhood communities, a majority of participants emphasised that the relationship, cooperation and support

among neighbours and residents of the neighbourhood are considered as important factors. If neighbours are open to help one another, willing to contribute and invest time to help and make connections with the residents of the neighbourhood, then the community benefits. Vitality of social activities and participation in these activities (e.g. the number of social events and festivals) were mentioned as another important aspect for a good and lively community. Some interviewees mentioned Sharrow Festival as a great opportunity for the community to come together and celebrate diversity. "There are loads of community projects running in the area, for example community forums, neighbourhood groups and a youth centre" (female, mature, white, from Sharrow); "There are two mosques and two churches, both of which have various activities and opportunities to socialise" (male, mature, white) and "There are social activities for the community in Fir Vale run from the Northern General [...] the clocktower and the old Firth Park library, both of which house various community projects and activities [...] They contribute to a good community there." (Female, elderly, white). It is evident that such spaces (also known as *third place*³³) and programs that allow for such social connections and collaboration within the community to take place are an important contribution to create a just space. Restaurants, shops and active streets where people meet were considered as central characteristics of a lively community. Social activities, and even passive contact in the form of listening or watching others, can contribute to stronger social cohesion and trust among residents.³⁴ One young interviewee who just moved to the city centre mentioned that it was important for her to live where "a lot is going on" and she wanted to be part of it. It is noticeable that

³² Mark S. Granovetter, 'The Strength of Weak Ties', *American Journal of Sociology* 78, no. 6 (May 1973): 1360–80, <https://doi.org/10.1086/225469>; Henning and Lieberg, 'Strong Ties or Weak Ties?'

³³ Ray Oldenburg, *The Great Good Place: Cafés, Coffee Shops, Bookstores, Bars, Hair Salons, and Other Hangouts at the Heart of a Community* (New York: [Berkeley, Calif.]: Marlowe; Distributed by Publishers Group West, 1999), 20–43.

³⁴ Jan Gehl, *Life between Buildings: Using Public Space* (Washington, DC: Island Press, 2011), 31–36.

areas perceived as lively have a relatively higher *density* and *mixed-use*, which demonstrates a correlation between them.

Diversity, multiculturalism and cosmopolitan neighbourhoods were also favoured by some of the participants and were mentioned as a positive quality: "*The community is very mixed, with white, Asian and African people all living in harmony- especially compared to some other areas in the north where there can sometimes be antagonism- we don't seem to get that here in Sharrow*" (female, mature, white). A number of interviewees (of non-white background) mentioned that multicultural neighbourhoods (Highfield, Sharrow, Attercliffe and Fir Vale were named) were preferred particularly because of their level of diversity and multiculturalism, making them cosmopolitan neighbourhoods. As agreed among interviewees, living in a diverse and multicultural neighbourhood with an international community is preferred since it is easier to become part of the community, form social networks and communicate with people. There is "*less resentment and less cat calling*" (female, young, British-Asian), "*you are not noticed as different*" (male, young, British-Muslim) and thus people do not "*stand out*" and "*blend with the crowd*". It was however evident that not everybody benefited or experienced positive interactions and the same treatment from the community in the neighbourhood.

Indeed, lack of co-operation and trust, harassment, intolerance, isolation and marginalisation can be some of the negative interactions among resident that have a damaging impact on trust and sense of community and safety. As mentioned above, people who have different socio-cultural values experience these negative interactions more frequently. Furthermore, *safety* of the neighbourhood was perceived as another key quality that has an immense influence on the way neighbourhood communities are conceived and divided; being '*rough*' and '*unsafe*' were some of the words often used when I asked about what constitutes as negative qualities in reference to the north of Sheffield — most of the north was rendered as less desirable neighbourhood (with warm colours). Since *diversity, tolerance and recognition* as well as *safety* were frequently mentioned and emerged as important qualities of various communities and in relation to (in)justice taking place in various neighbourhoods, I decided to further discuss these two sets of qualities during a separate map making process.

The west and south west areas of Sheffield were also chosen by interviewees as less favourable areas, which was rather unexpected, since these areas are known for well-off population and in previous interviews they were considered as desirable neighbourhoods. Nevertheless, some participants described the community as '*snob*', and one participant explained: "*I was brought up near Dore/Totley and I would rather live anywhere than the 'stuck-up' suburbs of south Sheffield*" (male, mature, white) and in respond to him one participant mentioned with humour "*I'm just worried about all these people trying to run me over in their Land Rovers.*" (male, young, white)

Indeed, *character* is known as an essential quality that differentiates various neighbourhoods. It is an aspect that can separate various classes and cultures but also create more sense of identity and belonging among residents who live in same neighbourhood. It is hard to define a character since it is a very subjective quality imbedded in the locality and the way people perceive a neighbourhood.³⁵

³⁵ Urban Design Group, Richard Cole, and John K. Billingham, eds., *The Good Place Guide: Urban Design in Britain and Ireland* (London: Batsford, 2002), 10–15.

Nonetheless class, demography, ethnicity and activities that take place in a neighbourhood are considered as some of the properties that shape the character of a neighbourhood.³⁶

5.2.2.3 Trust and perceived safety

As was often emerged in previous discussions, trust among neighbours and safety in the neighbourhood are important aspects of a community and they were thus the next topic of conversation. Participants needed to respond to the question "Please order the neighbourhoods from those that you perceive as safe to those less safe." Figure 5-8 demonstrates via the warm colours from north to east and south east that these areas were rendered as less safe. South west toward west were perceived as mostly safe (collection of blue colours). There were contrasting opinions about central and western Sheffield that manifested themselves in the map through a mixture of various colours.



Figure 5-8 Perception of residents on safe to less safe areas in Sheffield

The issue of safety is a multifaceted subject that goes beyond the subject of this study. However, within the boundary of this research, the feeling of safety and trust among residents were perceived in relation to poverty, inequality and (in)justice and, as was mentioned by interviewees, they are experienced in various ways among different genders, classes and ethnic backgrounds.

The conversation started about sense of safety and which areas were considered to be the most prone to crime, but very quickly turned to a heated discussion with many participants heavily opinionated.³⁷ As mentioned by one of

the participants "a huge sway across the north and east of the city" was perceived as not safe. Parson Cross and Sharrow were often named by participants as unsafe, alongside Burngreave, Pitsmore, Firth Park, Darnall, Manor, Attercliffe, Arbourthorne and Gleadless Valley.

Burglary, anti-social behaviour, nuisance and harassment were mentioned by participants, for instance: "Cars in a nearby car-park keep being broken into by thieves" (male, young, white, from Parson cross), or as one of the participants describe his experienced: "I got broke into twice [...] had my car nicked 5 times [...] one night I was working late and when I was driving into Pitsmoor the road was blocked off, not with police but with an armed gang." (male, young, white, from Parson Cross) Catcalling and harassment in the streets were often cited by female participants as the main concern.

³⁶ A number of authors discuss this point include: Christopher Alexander, *The Timeless Way of Building*, 24. print, Center for Environmental Structure Series 1 (New York, NY: Oxford Univ. Press, 1979), 38–45; Christopher Alexander, Sara Ishikawa, and Murray Silverstein, *A Pattern Language: Towns, Buildings, Construction* (New York: Oxford University Press, 1977); Jane Jacobs, *The Death and Life of Great American Cities*, 50 Anv (New York: Modern Library, 2011).

³⁷ Interview questions: Do you think inequality and injustice influence safety and trust in neighbourhoods? In your opinion what makes an area safe? Is there any area that you avoid going? Do you feel safe in your neighbourhood and why? Do you trust your neighbours? What are the differences between safe and unsafe areas?

This is a major issue almost in every city as one of the participants mentioned and everybody agreed: *"I really think, there isn't a woman around who hasn't had it happen to them."*

Xenophobia and racial issues were not openly voiced in relation to areas that were perceived as unsafe but were nevertheless subtly hinted at: *"I was brought up in Tinsley [...] I'm not being racist here, it's just a fact, but I grew up in fear of gangs. Some Asian gangs, some white gangs, but it seems like every day would involve some sort of punch up. So, to me, Parson Cross is the Hilton"* (male, young, white, from Tinsley) and another participant mentioned *"my daughter split from her partner, the Council offered her a house near the shops towards the end of London Road, bordered up houses, groups of, what I can only describe as shady, and I'm being polite, men hanging around on street corners, when I went to see it I was depressed and told her so. Fortunately, she's not taking it"* (female, elderly, white). There were also opposing comments *"[...] Sharrow is not rough either, some people think that cause its mostly Asian folk that live over that way. And no, I am not racist or saying there's anything wrong with Asians."* (male, mature, white)

In the same way, participants protested that many of the deprived and 'poor' areas were unfairly judged because of misunderstandings over the community or a bad previous reputation. *"Parson Cross is not as bad as people make it out to be, it got a bad reputation years ago and people are just following the crowd. Since the old house were demolished the area has improved considerably"* (male, mature, white, from Parson Cross). Another participant followed: *"I grew up in Hillsborough and used to think Manor and Arbourthorne were by far the roughest areas in Sheffield, but now I live closer to that end of town, my parents live in Arbourthorne and my sister is very close to the Manor [...] I can see that for the most part they are not half as bad as their reputation but actually are a very good community [...] I think a whole community should not be misjudged for the misconducts of few."* (male, mature, white) In respond to the question *'Why do you think these neighbourhoods are being misjudged?'* one participant responded: *"I think people would judge an area on how rough it is, if they are working class, poor, or the volume of tattoos that the women have."* (male, young, white) Another mentioned: *"Once the bus shelter was full of about 15 youths who appeared to be fuelled on white cider harassing passengers and throwing cans at passers-by. [...] This is not normal behaviour for the area, but my point is anyone not knowing the people of this areas, would just automatically assume the area was full of out of control working-class yobs"* (male, young, white, from Parson Cross).

When comparing Figure 5-8 with the crime map of Sheffield Figure 5-9³⁸ it becomes clear that, although there is a high number of anti-social behaviour, theft and violence in the centre, north and east areas, also the western neighbourhoods (particularly those with a high number of student residents) suffer from burglaries. The eastern areas were mentioned as one of the unsafe parts by participants, while in the crime map these areas have an average crime rate and do not stand out as high in crime. Thus, a degree of misperception about where crimes take place and generalizing such behaviour in relation to the residents' identity (i.e. income, class, ethnicity) can be observed.

When I asked about trust among neighbours and the neighbourhood community, more contrasting viewpoints emerged. Most of the participants commented positively about their neighbours, stating that they trust their neighbours and they believe that they can rely on them in case of need. Furthermore, collective actions from communities and government are taken to cope with

³⁸ 'Crime Map for Sheffield Central, South Yorkshire Police - Police.UK', accessed 20 October 2016, <https://www.police.uk/south-yorkshire/KD/crime/2015-12/+dBh53b/>.

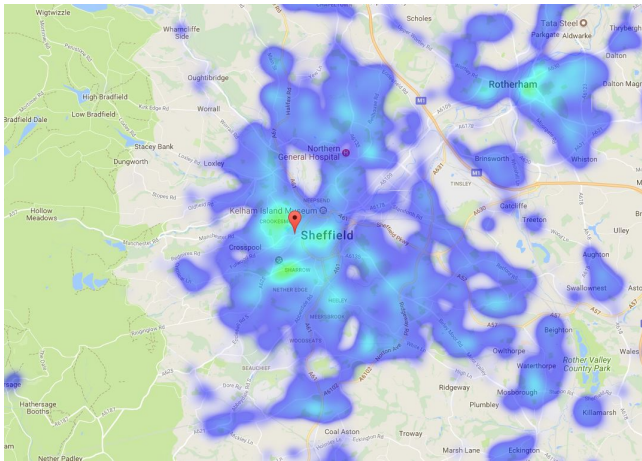


Figure 5-9 Crime heat map of Sheffield. Data source: police.co.uk

undesirable behaviour taking place in the neighbourhood as mentioned by one participant: "A large group of residents recently petitioned the Council, pleading for help over yobbos and anti-social behaviour" (female, white, from Parson Cross). Another participant: "Nobody seems to feel scared, but unfortunately, some crime is part of life in the community, but eventually people turn things around" (female, mature, from Parson Cross). "I lived on the Manor and it's really nice although with some troubles. There are lots of good, honest, hard-working people, and after more investment, the area is clean, the houses are new, and the

community is improving" (male, mature, white).

A British-Pakistani couple from Highfield mentioned that they particularly prefer this area since the facilities and services they use more often are accessible for them and they can better relate with the community. The wife mentioned "I like it here. It is a diverse neighbourhood and I prefer to live in an area with people from my own country. I find groceries easier [...] I feel my neighbours have better understanding of my family and I feel accepted and safe."

5.2.2.4 Social order, tolerance & recognition

The previous discussions on sense of community, place attachment, safety and trust also relate to the tolerance & recognition of people with diverse cultural and social values. To build upon the previous discussions, I start the next collaborative mapping with the question 'Which areas do you believe are the most and least tolerant toward diverse cultures?'. The colour gradient starts with violet and blue colours for most tolerant toward least tolerant, represented with red. As is shown in Figure 5-10 east, north east and the south part of the city centre as well as the central areas are represented as most tolerant through a collection of cold colours. North, north west, west and south west were perceived as the least tolerant areas with a blend of red to yellow colours.

I started with discussions about recognition and tolerance.³⁹ In response to the question if Sheffield neighbourhoods are tolerant to diverse cultural backgrounds, some of the participant mentioned that various neighbourhoods have their own social character and that a racial divide exists in different parts of the city. As one of the participants explained: "Unfortunately, there is a bit of an unspoken racial divide in Sheffield. Some areas are almost exclusively South Asian [e.g. Pakistani or Indian], but some parts, surrounding the city in the north and south, are potentially unwelcoming to those of Asian origin. I say that without malice, and I'm making no judgement, I'm simply suggesting that crossing that divide could certainly (at best) be a bit of a culture shock" (male, mature, white). The peripheries of Sheffield were also mentioned by other participants as less tolerant of other ethnicities, "to the north,

³⁹ Some of the interview questions were: Are neighbourhoods in Sheffield tolerant of diverse cultural backgrounds? Do you have ethnic minorities as your neighbours? How would you describe your relationship with neighbours and communities of different cultures than yours? Have you ever experience racism or any kind of intolerance in your neighbourhood? Why do you think there is intolerance in some of the neighbourhoods? Do you feel that you are accepted and welcomed by the community in Sheffield? Have you ever been discriminated against or experienced injustice because of your identity?

west and south end of the city you hardly see a coloured face apart from those who work the taxis and takeaways [...] and the chats between people have sometimes a xenophobic tone [...] blaming all their troubles on immigrants" (male, young, white).

Participants held the view that there was a generational and educational gap among Sheffield locals that somehow defines how tolerant they are of ethnic minorities. "Modern Sheffield it's not a big problem. Old Sheffield where the poor people live is not as good" (female, young, white) and also "whether we like it or not, the working classes are less educated and will be the ones blaming immigrants for lack of jobs" (male, mature, white). However, many believed that Sheffield has become more tolerant, and that particularly because of the many international students the city has become increasingly cosmopolitan. "I emigrated to the UK in 1990, back then many racial tensions in various communities were widely reported, [...] I have lived in the semi-international district of Sharrow Sheffield for the last 7 years, and in my and other friends' experiences attitudes and resentment towards us of late have drastically changed. Perhaps the arrival of international students has an impact on the attitude of the locals. [...] it is a good revenue" (male, young, black).



Figure 5-10 Sheffield areas perceived as most to least tolerant toward other ethnicities.

Muslim and Pakistani participants were the largest group who mentioned their discontent of unjust treatment and discrimination. A number of participants shared some of their experiences of (in)justice, discrimination, harassment, name-calling, and verbal abuse. Some even pretend to have different nationalities to avoid mistreatments as one of the participants points out: "[...] My friends, they never tell anyone their background, about fleeing the war or that they are Kurdish, and instead they sometimes say they are from Greece because people have been more accepting of this but the moment they hear the truth you can see the instant attitude change-its horrid! [...] No one should have to feel they must lie about their background. It creates problems for their mental health and identity. [...] racism needs to be challenged" (male, young, student, Iraqi).

Two of the participants described in length some of their experiences, including a young Muslim lady, who was of Pakistani origin but born and raised in Highfield. She mentioned that harassment and name-calling have become part of her life. She stated: "Highfield is alright and I trust my neighbours but other parts of the city I am not so certain" and explained that verbal harassment exists in the city but also that microaggressions has become part of her everyday life. She remembers her teacher asking her "Will you be going to university or going to have an arranged marriage in Pakistan next summer?" and continues "it might be a jest but it was very upsetting". Another British-Pakistani participant mentioned Islamophobia as a source of unjust treatments and that lack of recognition for his identity impacts his sense of place attachment and identity. He said "I think that [people] don't

really know me as a person, they often judge me based on what they see on the TV and in the newspapers. It makes it very hard to be British. I was born and grew up here but it feels like I am not allowed to be British. I don't feel like I belong anywhere. It feels like I am nothing, I am treated like a criminal" (male, young, Pakistani, Muslim, from Highfield).

Indeed, Islamophobia, discrimination and (in)justice hold back a majority of UK Muslims. As other studies also found out, microaggression and discrimination in schools or workplaces prevents Muslims from succeeding⁴⁰, despite, for example, the solid 'work ethic' and 'remarkable results in education', less than 20% of the Muslim adults are in full-time employment.⁴¹

While interviewing the two British-Asian participants, a middle-aged couple, who lived in Sharrow as well, joined the conversation. The discussion revolved around Highfield and Sharrow and both emphasised that they are multicultural, lively neighbourhoods where everybody is welcome. The 'Sharrow festival' and community events also emerged as a way to connect and celebrate diversity in the neighbourhood. It was mentioned by the couple that *"If you don't bother people then they don't bother you. People tend to keep themselves to themselves"* (male, mature, white).

Another participant of East Asian descent mentioned that when she arrived in Sheffield, she lived in north west end of Fir Vale, particularly because of the cheap rent. She explained that during the year she was living in the neighbourhood she could not make any connection to the community and the neighbours (although it is – and is perceived – as a relatively diverse community). When I asked why, she said that being ignore by the community, getting cold and angry looks, and in some cases being harassed on the street made it impossible to live there. She soon found a Chinese community in Sharrow and moved there. She also mentioned that although she lives in a very diverse community, most of her acquaintances in the neighbourhood are Chinese. She revealed that *"I am not certain I can trust everybody."* Other participants, who also lived in the more culturally diverse neighbourhoods or were from ethnic minorities, mentioned that they were more in contact with residents familiar with their own cultural background than with others. It can be expected for people who share similar value to be more easily attracted and connected among each other. However, in diverse neighbourhoods, this behaviour can reduce community co-operation and lower collective actions, and thus eventually reduce social capital and social solidarity in a neighbourhood.⁴² However as participants pointed out trust, neighbours' social relations and contacts are valued differently in diverse neighbourhoods. Strong ties, high social interaction and community collaboration, which represents social capital (solidarity) for people with similar backgrounds, are not the precondition of coexistence and harmony in diverse neighbourhoods but rather, 'weak ties', 'tolerance' and 'micro politics of everyday contacts' have a higher priority.

⁴⁰ Anushka Asthana, 'Islamophobia Holding Back UK Muslims in Workplace, Study Finds', *The Guardian*, 7 September 2017, sec. Society, <http://www.theguardian.com/society/2017/sep/07/islamophobia-holding-back-uk-muslims-in-workplace-study-finds>; Anushka Asthana, "'I Don't See How You Can Succeed': Discrimination Faced by Would-Be Teacher", *The Guardian*, 7 September 2017, sec. Society, <http://www.theguardian.com/society/2017/sep/07/i-dont-see-how-you-can-succeed-discrimination-faced-by-would-be-teacher>.

⁴¹ '2011 Census - Nomis - Official Labour Market Statistics', accessed 23 October 2017, <https://www.nomisweb.co.uk/census/2011>.

⁴² Robert D. Putnam, 'E Pluribus Unum: Diversity and Community in the Twenty-First Century The 2006 Johan Skytte Prize Lecture', *Scandinavian Political Studies* 30, no. 2 (June 2007): 137–74, <https://doi.org/10.1111/j.1467-9477.2007.00176.x>.

5.2.2.5 Deprivation, perceived distributive injustice and reduction in wealth disparities

For this collaborative map making I chose a topic (based on previous phase) that more directly refers to inequality and distributive injustice. The Index of Multiple Deprivation (IMD) is often used to visualize and map the degree of deprivation and poverty through measuring seven domains including *Income Deprivation, Employment Deprivation, Education, Skills and Training Deprivation, Health Deprivation and Disability, Crime, Barriers to Housing & Services and Living Environment Deprivation*.⁴³ However, I wanted to map how people subjectively perceive deprivation and inequality and what they understand as the cause of such distributive (in)justice. Thus, I started the process by asking the participants to name the areas or neighbourhoods based on the question 'In your opinion what are the most and least deprived areas in Sheffield?' Violet and dark blue represented areas that participants perceived as least deprived while red represented areas they considered most deprived.

The resulting map, as shown in Figure 5-11, reveals that the north to east and southeast areas are mostly painted in warm colours, showing that a majority of participants perceived these areas as deprived, while the west, southwest and centre received most of the cold colours as they are viewed as less deprived (more affluent). Compared with the IMD GIS Map (Figure 5-12)⁴⁴ we can observe a close resemblance with Figure 5-11, i.e. people's perception was relatively close as to where the most deprivation exists in the city.

Sheffield in general has been perceived as a city that has been more affected by deprivation and poverty compared with the nation as a whole.⁴⁵ As one participant explained: "*Sheffield is a labour city. Ordinary people, such as most of us living and working here, are finding life increasingly challenging. Housing, support services, education and health are failing as public revenues are exhausted, while the*



Figure 5-12 Most and least deprived areas as perceived by residents.

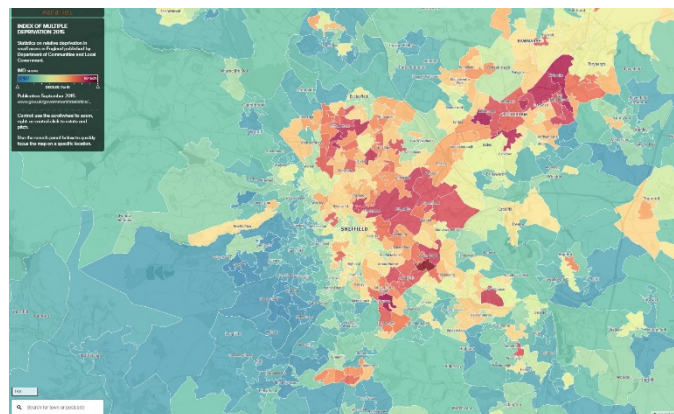


Figure 5-12 Data from The English Indices of Deprivation 2015

⁴³ *The English Indices of Deprivation 2015: Technical Report*, 2015, <https://nls.lids.org.uk/>; @EditingGroupList Matthew Liddle, 'Index of Multiple Deprivation', 10 January 2006, <http://www.gateshead.gov.uk/People%20and%20Living/StatisticsandCensus/IMD.aspx>.

⁴⁴ 'UK Maps | IMD', accessed 26 October 2017, <https://parallel.co.uk/imd/#11.34/53.3911/-1.4532>; *The English Indices of Deprivation 2015*.

⁴⁵ Some of the questions to initiate the conversation on this topic were: Why do you think some residents are less advantaged than others? Do you think the inequality gap is large in Sheffield? In your opinion, what are the reasons behind inequality and injustices in the city? Do you have any experiences of injustice and unfairness? How is it possible to have a just society?

charmed circle of executives, advertising barons, [...] reach ever higher extremes of wealth." (male, Mature, white) Similar to the previous experiment, the discussions soon took an economic and political theme, mentioning historical injustices and inequality against the city again. One participant stated: *"Inequalities rose dramatically during Margaret Thatcher's time as prime minister [...] Sheffield was devastated by neoliberals [...] [inequalities] remained high throughout John Major's time [neoliberal], and they stayed high through the coalition right up to today"* (male, elderly, white). Governing organisations were recognised as responsible for allowing such (in)justices and inequalities to take place. *"[...] a political system that allows one person to enjoy an income that pays in one single hour more than a care worker earns in a whole year is certainly unjust"* (male, mature, white).

In fact, the income gap was brought up many times by various participants as the root of deprivation in parts of the city: *"this is a problem caused because of income inequality which is something that has to be tackled"* (male, young, white) and *"[...] kind of highlight growing inequality in pay in this country."* (female, mature, white). Although there were opposing opinions as well. For example, equal opportunity to access education to enable a high standard of living: *"In the UK anybody now has the opportunity to a high standard of life, [...] things have improved for the better [...] for example the current system increases participation from poorer segments of the population to do a degree."* (male, white, mature).

The cuts in social welfare and benefits were also perceived as having negative impact. One of the effects of such cuts was pointed out to be a reduction in social mobility as one participant explains: *"Austerity advocates assure us that we are all in this together. Yet service and benefit cuts, minimum wage policies, zero-hour contracts [...] all these issues are being structured into the daily lives of millions. This is what neoliberal policies mean - the rich get richer, the poorer get poorer, work harder and longer."* (male, young, white). Austerity and cuts in social welfare are particularly important as they can escalate inequalities and the worsening of it is perceived partly as the outcome of tax avoidance: *"workers all know just how devastating the cuts to services have been. [...] tax avoidance and cuts are opposite sides of the same coin"* (male, mature, white).

Fair taxation was further cited as way to approach social justice: *"[...] it [social justice] is entirely dependent upon a fair and robust tax system and effective regulatory mechanisms, precisely those aspects that have been neutralised by neoliberal policy"* (male, mature, Asian). The unjust distribution of wealth due to unfair taxing treatment turned out to be an infuriating topic as one of the participants heatedly comment: *"the stark injustices of tax avoidance and executive pay [...] the rich and powerful have simply absented themselves from all common decency and fairness. And they have done this by cheating the tax system, and by exploiting ordinary people"* (male, mature, white), which was supported by another participant: *"It is no longer possible to dispute the vast scale of tax avoidance. Every tabloid newspaper has featured the issue"* (male, mature, white).

As mentioned, during the majority of the discussion over (in)justice, inequality and deprivation in the city had a political and economic theme. However, there were participants who brought a personal angle to it. Although the purpose of this mapping was to allow discussion over the topic among the participants, the personal experiences helped me to familiarize myself with the difficulty that economically disadvantaged have to go through. Particularly one conversation with a recovered alcoholic went to the depth of the matter. He was very cautious at the beginning about audio

recordings or being photographed. After reassuring him that he will not be recorded and that I will only take notes, he explained in length all the problems that he had been through: struggling to get over the addiction and surviving on daily basis; experiences of disrespect and neglect when he could only find peace in drinking; and after recovery, the difficulty of finding a job. He mentioned addicted friends and his main emphasis was about 'care.' He said *"me and my mates, we don't need money, just give us a job and listen to our problems."* His experiences and story impacted other participants and one responded: *"I think poor neighbourhoods deserve more money, because they need more support to maintain a just life and well-being. The government and local authorities need to understand that even distribution of public funding should not even be a goal, but rather supporting those who need support. A child in a poor neighbourhood, from a disadvantaged background needs more support than a child from a well-to-do family in a private school with two working parents. This is just common sense"* (female, white, from Sharrow).

5.2.2.6 Perception of development inequity

The focus of the sixth day conversation was around the perception of development inequity. With this topic, I wanted to provide an opportunity to discuss uneven development in the city and explore how participant perceive if investments, regeneration and development programs are well distributed in the city. I started the mapping by asking participant to *"Name areas from most to least in need of regeneration and urban development."*

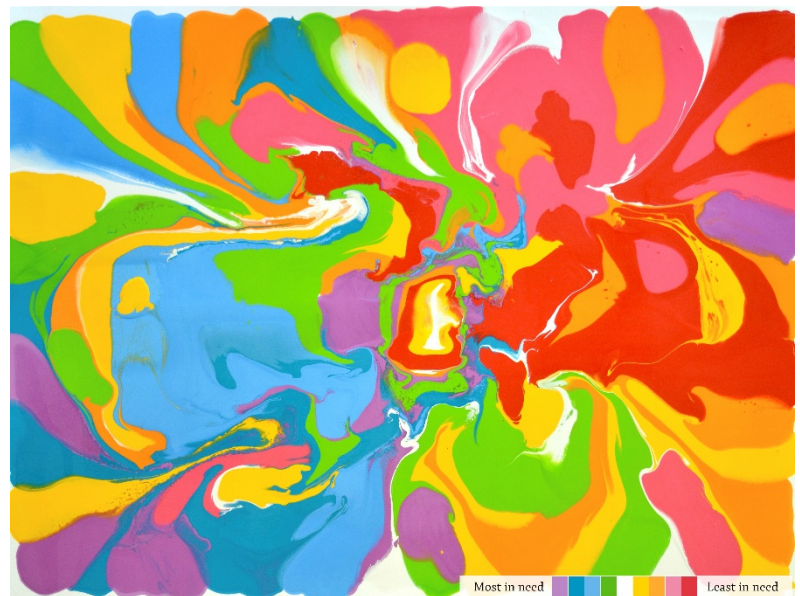


Figure 5-13 Areas as perceived in need of urban regeneration and development

The results are shown in Figure 5-13, demonstrating that the east and north-east areas are mostly painted in warm colours, showing that a majority of participants viewed these areas as in need of regeneration and further development, while southwest and west received most of the cold colours, meaning better developed. The centre of the city as well as the north and south display a mixture of different colours, representing mixed feeling and contrasting perception about these areas.

The discussion started with the question whether urban development in Sheffield is evenly distributed and just.⁴⁶ There was agreement that some areas that were known as deprived, such as Parson Cross and Manor, were subjected to regeneration as mentioned by one participant: *"I think, Sheffield has received regeneration funding, so you can always find a nice park or shopping arcade, a*

⁴⁶ Interview questions: In your opinion, do you believe some areas receive more funding development or investment than others? Which areas receive more investment or development? Do you think city development in Sheffield is 'just'? If not, why do you think uneven development in Sheffield exists? What are the reasons behind uneven development of the city?

community forum and modernised houses for example in Parson Cross and Manor. But there are still neighbourhoods that need attention." (male, young, white)

There was a general perception that many of the regeneration programs were not fairly distributed across all areas and that some received more than other, for instance as it was pointed out by one of the participants: *"This Council doesn't give a toss about any area unless it's in the north of Sheffield"* (male, young, white). The eastern areas of Sheffield were considered underdeveloped. Tinsley, Darnell, Pitsmoor and Grimesthorpe were mentioned as in need of regeneration. *"Darnell and Tinsley are the most run-down places in the city with an average house price around £68k. Perhaps these areas should get a bit more attention"* (male, mature, Asian).

Vandalism was considered another reason for constant need of maintenance in these areas; anti-social behaviour in these neighbourhoods was partly blamed for taking away funding from others and for damaging the area. *"The council spends money on doing the rough areas up, then the kids around the area will just trash the place back up with graffiti"* (male, young, white). *"Poorer areas seem to get better parks and a lot more funding and when vandalised they are always repaired. The ones in better areas, that are not vandalised, are left the same for years and years with no improvements."* (female, mature, white, from Dore).

It was also pointed out by participants that some neighbourhoods closer to the centre receive more public funding while peripheries are in desperate need and are being ignored: *"The City Council should concentrate on making the rough edges better rather than concentrating on certain areas all the time. [...] Attercliffe and Shalesmore, could do with a face lift alongside quite a few areas on the edge of the city centre"* (male, mature, white). However, this was challenged by another participant: *"I think all the estates in Sheffield are either being modernised or due to be modernised. This time last year they were putting in new kitchens, central heating and windows all over Arbourthorne and the surrounding area. [...] Also, Manor had many regeneration projects"* (female, mature, white).

The focus on the centre of the city was believed to be due to the increase in the number of students and rebranding the city as a modern hub to attract further students, while other neighbourhoods were perceived to be neglected: *"[...] In particular, visible recovery has been largely confined to the city centre and the university area. Many nearby neighbourhoods show little improvement."* (female, young, Asian)

It was particularly in Sharrow that residents believed the city and new development had deteriorated due to the lack of attention caused by temporary residence of student. *"The good work undertaken in Sharrow is being neglected by the number of houses being bought by landlords for students. There are too many students. That is the major problem"* (male, mature, white, from Sharrow). Some residents perceived a disconnection between students and the local community. Students short-term residence means there is less contribution to the local community from them. *"They are ruining the community feeling of the neighbourhood. Sharrow has always been a diverse community where everyone gets on well together. The Council's policy of including the Council flats in the calculation for the proportion of student housing means that residents are being overwhelmed by students who have no interest in the community"* (female, elderly, white, from Sharrow).

The participants from more affluent areas also believed their neighbourhoods were decaying and neglected: *"We have the worst bus services and potholes in Sheffield"* (female, mature, white, from

Dore), *"Services, medical, transportation and infrastructure repairs are not as good as other areas"* (female, mature, white, from Dore) and *"Roads are worse in our area, and there's less preschool provision. Although, we get more investment from private investors and real estate development agencies"* (male, mature, white, from Dore & Totley). Although affluent areas might be perceived by their residents as receiving less public funding from the local government, they are considered to be in the interest of private investors, as was brought up by one of the participants (male, mature, white): *"These parts [pointing to the west and south west, particularly Whirlow and Millhouses] have the most useful infrastructure links to the Peak District and town in the opposite direction, together with the most rapid rises in property outside of London [...] there is still money to be made in the housing sector, [...] they receive good funding whilst Sheffield was undergoing painstakingly slow development."*

A number of participants believed that the political inclination of a neighbourhood is related to the reception of public funds from the local government: *"Some areas get better treated due to political bias"* (female, mature, from Dore). This was particularly mentioned by most of the residents from Dore and Totley who affiliate themselves with the Liberal Democrats, while rest of the Sheffield is more inclined toward the Labour party.⁴⁷ *"I would think the Labour Party gives money to their favourite parts"* (male, mature, from Dore). Or as other participants remarked: *"The city is developed unevenly due to long standing political, social and economic differences"* (male, mature, from Dore) and *"Left wing Councils are only interested in spending in north and east Sheffield especially s3,4,5 and 9. They avoid spending in the south west, in s10,11 and 17."* (male, mature, from Dore). However, there were opposing opinions as well: *"Clegg will look after his area; the rest can have what's left!"* (male, young, white).

Two of the participants called this behaviour a 'positive discrimination', referring to the way that socially deprived areas receive more funding while affluent areas were ignored: *"There is a positive discrimination within the Sheffield Council against areas perceived to be better off. There are few Labour voters in my area so this Council does nothing for us"* (female, mature, white). This was supported by another participant: *"[...] This [uneven development] is entirely due to the political nature of the neighbourhood. This positive discrimination, sadly, does not produce the results in community co-ordination, health and respect that the funding was intended to develop!"* (male, mature, white, from Dore).

However, in opposite standing, two participants from Sharrow believed that economical advantage and strong social cohesion enables the affluent areas to pursue their demands and have their voice heard better than deprived areas, as one participant commented: *"[...] White middle-class neighbourhoods have more social and hard capital to spend on pushing for changes in their areas, they tend to be more successful. For example, compare development of Endcliffe park and Millhouses to places like Parson's Cross or in fact Sharrow"* (male, mature, Asian). And another participant supported this: *"Problems in richer neighbourhoods are easier to comprehend as they are not riddled with issues of poverty and social problems and attract more support. For instance, it is easier to say 'yes' to a campaign about saving trees on Rustlings Road, because everyone loves trees and leaving them standing costs nothing, than to campaign to save a children's centre or youth club in Sharrow"* (female, mature, white, from Sharrow).

⁴⁷ 'Sheffield Hallam Parliamentary Constituency - Election 2017', BBC News, sec. Election 2017, accessed 27 October 2017, <http://www.bbc.com/news/politics/constituencies/E14000922>.

Familiarity, knowledge and engagement with the political system as well as social capital were considered as additional assets of affluent areas to push for their demands: "*Other communities are more likely to get involved. Better educated and knowledgeable about getting funding for projects. More vocal. They are a favoured group and so have their facilities protected. But ethnic minorities are absent or neglected*" (male, mature, Asian). Indeed, as some studies⁴⁸ show, there is a positive relation between higher levels of education, income and occupational status and higher political engagement, for instance to vote more, contact more, organize more and campaign more than those with a lower status (particularly ethnic minorities) and thus they are often underrepresented.

5.3 A summary and contextualization of the explored qualities

The two mapping experiments conducted in this chapter offered useful understandings of the overall experiences of (in)justice by Sheffield inhabitants. By concentrating the discussions on themes and qualities that were explored in phase 1 (the Storytelling method), each of the themes was further discussed and investigated from the multiple-angles that people with diverse backgrounds brought to the collective mapping practice in the second phase (Map Art).

The findings of these experiments not only confirmed the postmodernist views of Young and Fraser that (in)justice is the result of maldistribution and misrecognition⁴⁹ but also complement them by providing an extended list of qualities (provided in Table 5-1) that are more situated in the local context and should be considered in mapping and addressing (in)justice in the city. This list of qualities is not an exhaustive list and can be changed or added to depending on the local context where the mappings takes place.

The mapping experiments brought three main themes to the surface, each including a number of interlinked qualities that were perceived to influence residents' experiences of (in)justice in the city. In this section I will provide a brief summary of these qualities while contextualizing them by referring to some of the related built environment literature. In this way I intend to complement the qualities that were identified from the participants' (bottom-up) point of view by adding a professional (top-down) perspective and placing them in the context of architecture, urban design and urban sociology literature.

It should be mentioned in parenthesis that these different qualities (or aspects)⁵⁰ are clearly intertwined and that they mutually affect one another. Therefore, there is no binary or single relation between a quality and a theme but for the sake of exposition I shall deal with them separately.

This section concludes by providing a list of qualities presented in Table 5-1 that was used to create a questionnaire and inform the creation of a tool to map (in)justice in a wider context which is taken forward in the next chapter.

⁴⁸ Jan E. Leighley and Arnold Vedlitz, 'Race, Ethnicity, and Political Participation: Competing Models and Contrasting Explanations', *The Journal of Politics* 61, no. 4 (November 1999): 1092–1114, <https://doi.org/10.2307/2647555>; Aida Just and Christopher J. Anderson, 'Opinion Climates and Immigrant Political Action: A Cross-National Study of 25 European Democracies', *Comparative Political Studies* 47, no. 7 (June 2014): 935–65, <https://doi.org/10.1177/0010414013488555>.

⁴⁹ For further information please see chapter 2

⁵⁰ The words Qualities, aspects, factors and attributes are used interchangeably

Physical theme

Participants' perceptions of what constitutes physical qualities that are unevenly distributed in the city were the starting point of the mappings. A number of positive and negative physical qualities were brought up by participants as some of the factors contributing to whether or not an area was perceived as deprived, under-developed or affluent, including:

Physical **attractiveness** of the neighbourhood emerged as one of the qualities. From residents' point of view the amount of green space and trees in the neighbourhood and the access to green spaces are crucial for an attractive neighbourhood. Visual/artistic attractiveness is also frequently cited in the built environment literature as a feature of quality for an environment and is claimed to create a sense of attachment to the place and to have positive influence on residents' quality of life.⁵¹ Trees and greenery are mentioned⁵² as non-manmade attractions, while public art, public views, vistas, cleanliness and lighting⁵³ are listed as manmade features of environment.

Although there is a consensus on attractiveness as a quality, there is less consistency in the literature on what exactly makes an attractive place. For instance, an attractive visual experience in the city is created through balance and symmetry for Sitte, order and geometry for Le Corbusier and complexity, contrast and serial vision for Cullen.⁵⁴ In short visual complexity has been defined as contrast of mass and void, ornaments, size and shape of streets, allies, corridors, public squares and level changes.⁵⁵ This can be understood in two scales: one is the relationship between mass and void (or building and space) in the street scale and the other is the level of ornaments in individual buildings.⁵⁶

The quality of landmarks, in Sheffield was also brought up by a number of participants, referring to the fact that many of the city neighbourhoods lack distinctive landmarks and that even some landmarks in the city centre lack quality. Lynch identified legibility as an important quality of urban environment, meaning different parts of the city can be recognized at ease and "*can be organized into a coherent pattern. A legible city would be one whose districts or landmarks or pathways are easily identifiable and are easily grouped into an over-all pattern.*"⁵⁷ If people cannot "*grasp the place's layout, and what goes on there*"⁵⁸ it becomes harder for a city to operate properly and some areas can get isolated or neglected. Easily recognising distinct character and features of an area strengthens the sense of comfort and safety due to familiarity with the neighbourhood. For instance, in an analysis of Las Vegas, Robert Venturi realises that signs are the way to recognise and distinguish the areas where

⁵¹ Patrick Abercrombie Sir, *Town and Country Planning* / by Patrick Abercrombie, New York : Oxford University Press (London, 1944); Gordon Cullen, *The Concise Townscape* (Oxford ; Boston: Butterworth-Heinemann, 1995); Nigel Taylor, *Urban Planning Theory since 1945* (London ; Thousand Oaks, Calif: SAGE Publications, 1998); Ebenezer Howard, *To-Morrow: A Peaceful Path to Real Reform*, Digitally pr. version, Cambridge Library Collection (Cambridge: Univ. Press, 2010).

⁵² See: Llewelyn-Davies, *Urban Design Compendium* (London: English Partnerships, 2000); Department for Communities and Local Government, 'Planning Policy Statement 3 (PPS3): Housing' (Communities and Local Government: London, June 2011); Howard, *To-Morrow*; Abercrombie, *Town and Country Planning* / by Patrick Abercrombie; Tim Elkin and Duncan MacLaren, *Reviving the City: Towards Sustainable Urban Development* (London: Friends of the Earth [u.a.], 1991).

⁵³ See: CABA Space, 'The Value of Public Space: How High Quality Parks and Public Spaces Create Economic, Social and Environmental Value' (London: CABA Space, 2005); Cullen, *The Concise Townscape*; Sitte Camillo, *City Planning According to Artistic Principles*. (Phaidon Press, 1965).

⁵⁴ Camillo, *City Planning According to Artistic Principles.*, 111; Le Corbusier, *Urbanisme, Champs, Arts* (Paris: Flammarion, 2011); Cullen, *The Concise Townscape*, 8.

⁵⁵ Cliff Moughtin, Taner Oc, and Steven Tiesdell, *Urban Design: Ornament and Decoration*, 2nd ed (Oxford ; Boston, Mass: Architectural Press, 1999); Cullen, *The Concise Townscape*; Jacobs, *The Death and Life of Great American Cities*; Donald Appleyard and Mark Lintell, 'The Environmental Quality of City Streets: The Residents' Viewpoint', *Journal of the American Institute of Planners* 38, no. 2 (1 March 1972): 84–101, <https://doi.org/10.1080/01944367208977410>.

⁵⁶ Moughtin, Oc, and Tiesdell, *Urban Design*; Cullen, *The Concise Townscape*.

⁵⁷ Lynch, *The Image of the City*, 2–3.

⁵⁸ Ian Bentley, *Responsive Environments: A Manual for Designers* (London: Architectural Press, 1985), 42.

highways are the pathways that communicate information about the city and the city without them is illegible, in his own words: "*If you take the signs away, there is no place.*"⁵⁹

As discussed in the experiment above, visual complexity encompassing architectural design as well as quality of building materials and landmarks were perceived by residents as another quality. These various visual features create a perception of a character through which a neighbourhood is identified with.

Therefore, the **character** of the neighbourhood emerged as another aspect in the discussions. The character of the neighbourhood is understood on two levels, one is (referred to by participants) in relation to physical aspects (building types, architecture style and building material). In the discussion with the participants, the typology of buildings (e.g. towers, terraced, semi-detached, and detached houses) as well as the quality of the material were considered to create a good or bad physical character of the neighbourhood. For example, council housing towers (in Sharrow), or terraced houses (in Parson Cross and Sharrow) were considered as "cheap" and low quality. And the other level referred to the social & economic character, which was related to the residents' class, racial and ethnic identity and which is explained in more details in the section on social themes.

A familiar character can stimulate feelings of comfort and security in inhabitants. It enhances the sense of place for residents, particularly if people feel safe and as part of the community.⁶⁰ Defining character depends on the subjective opinion and how individuals perceive their environment. It is an intangible experience of place that "*when you get there, there isn't any there there.*"⁶¹ A "*quality which has no name includes these simpler sweeter qualities*"⁶² that form people but at the same time are also formed by them. To put it simply, character is recognising local context and consists of the inhabitants, physical forms and activities that take place in that space.

In relation to the character, **density** of the area was also raised by residents and understood often through the size and type of the building (e.g. tower block, terraced, semi-detached, detached housing) and the population of the area. However, there are differences between how residents view density of the areas and how it is regarded in literature and policies. High density in residential areas is claimed to be advantageous as it can provide access to a wide range of facilities for a larger number of people in walking distance as well as generate strong local identities.⁶³ Therefore, it is argued that compact cities⁶⁴ are more sustainable as they reduce their carbon footprint, making them a recommended development strategy.⁶⁵ Nonetheless, the degree of density for a high quality neighbourhood has turned out to be a controversial one.⁶⁶ On the one hand, increasing environmental concerns combined with efforts to reduce the human impact of growing populations

⁵⁹ Robert Venturi, Denise Scott Brown, and Steven Izenour, *Learning from Las Vegas: The Forgotten Symbolism of Architectural Form*, 17th print (Cambridge, Mass.: The MIT Press, 2000), 18.

⁶⁰ Jacobs, *The Death and Life of Great American Cities*, 113–40.

⁶¹ Urban Design Group, Cole, and Billingham, *The Good Place Guide*, 10–12.

⁶² Alexander, *The Timeless Way of Building*, 38–40.

⁶³ Llewelyn-Davies, *Urban Design Compendium*, 41; Jacobs, *The Death and Life of Great American Cities*, 152–55.

⁶⁴ Elizabeth Burton, Mike Jenks, and Katie Williams, *Achieving Sustainable Urban Form* (Routledge, 2013), 30–45; M Jenks, Elizabeth Burton, and Katie Williams, *The Compact City: A Sustainable Urban Form?* (London; New York: E & FN Spon, 1996), 66–74, <http://site.ebrary.com/id/10165942>; Elizabeth Burton, 'The Compact City: Just or Just Compact? A Preliminary Analysis', *Urban Studies* 37, no. 11 (1 October 2000): 1969–2006, <https://doi.org/10.1080/00420980050162184>.

⁶⁵ *Towards a Fine City for People: Public Spaces and Public Life - London, June 2004* (Gehl Architects, 2004); Department for Communities and Local Government, 'Planning Policy Statement 3 (PPS3): Housing'.

⁶⁶ Mike Jenks and Nicola Dempsey, *Future Forms and Design For Sustainable Cities*, 2006, 287–309, https://nls.idls.org.uk/welcome.html?ark:/81055/vdc_100026696994.0x000001.

press decision makers to favour higher density developments and efficient use of land.⁶⁷ On the other hand, as discussed above, participants often associated high density neighbourhoods (including typology of the houses and size of internal spaces) with poor quality, while low density neighbourhoods such as Dore were considered to be attractive and allowing for more space per person. Accordingly, some researches show that residents have a disinclination to live in high density built environments,⁶⁸ because overly populated areas may reduce the availability of open spaces and facilities.⁶⁹ Moreover, it would be wrong to conclude that low-density built environments are of poor quality as this has also frequently been cited as a pivotal attribute of high-quality neighbourhoods.⁷⁰ What is clear is that density is a quality to consider when mapping (in)justice and uneven spatial distribution.

Mix-use and multifunctionality were also considered by participants as a quality. Mono-functional neighbourhoods that do not offer diverse activities and uses (e.g. Parson Cross and Manor) were perceived as 'boring', 'too quiet' and 'unsafe'. Mixed-use environments are believed to be required to provide services and facilities to a diverse range of people. It is argued that cities should provide for people with diverse backgrounds with a wide variety of needs, tastes and skills. Not only can a mixed-use approach create a just living environment by providing residents with their needs but it can also increase people's presence in the neighbourhood throughout the day and consequently it can increase the feeling of safety, while at the same time having a positive impact on the local economy.⁷¹

Furthermore, some qualities that emerged in the discussion were not purely physical but related to the services that were provided in the neighbourhood, including amenities, services, shops, restaurants and pubs; **accessibility** to such services directly in the neighbourhood or through good and affordable transportation also influence the quality of the neighbourhood. For example, residents of Dore often mentioned that a lack of suitable transportation to the city was one of their main problems, whereas residents of more deprived areas (e.g. Parson Cross) mentioned a lack of good quality and affordable services or even proper 'schools and child care' as some of their concerns. A just distribution of affordable facilities, services and spaces - e.g. green spaces - in addition to opportunities such as employment, education and health (or affordable ways to reach them) can improve inhabitants' quality of life⁷² and reduce disparities of services and spaces. A just city with high-quality neighbourhoods should provide access "at reasonable cost, in reasonable time and with reasonable ease"⁷³ to key services. Thus, a neighbourhood is accessible when: first, economically feasible amenities and services are available - in walking distance - in the neighbourhood. Second, accessible transportation infrastructure is provided to reach services outside the neighbourhood. Third, people are aware and satisfied with such services, their reliability and security.⁷⁴

⁶⁷ Department for Communities and Local Government, 'Planning Policy Statement 3 (PPS3): Housing'.

⁶⁸ A. Churchman, 'Disentangling the Concept of Density', *Journal of Planning Literature* 13, no. 4 (1 May 1999): 389-411, <https://doi.org/10.1177/08854129922092478>; Michael Breheny, 'Urban Compaction: Feasible and Acceptable?', *Cities* 14, no. 4 (August 1997): 213-15, [https://doi.org/10.1016/S0264-2751\(97\)00005-X](https://doi.org/10.1016/S0264-2751(97)00005-X).

⁶⁹ Burton, 'The Compact City', 1972-73.

⁷⁰ Nicola Dempsey, 'Quality of the Built Environment in Urban Neighbourhoods', *Planning Practice and Research* 23, no. 2 (May 2008): 249-64, <https://doi.org/10.1080/02697450802327198>; Breheny, 'Urban Compaction'.

⁷¹ Jacobs, *The Death and Life of Great American Cities*, 152-77; Jill Grant, 'Mixed Use in Theory and Practice: Canadian Experience with Implementing a Planning Principle', *Journal of the American Planning Association* 68, no. 1 (31 March 2002): 71-84, <https://doi.org/10.1080/01944360208977192>.

⁷² Elizabeth Burton, 'Housing for an Urban Renaissance: Implications for Social Equity', *Housing Studies* 18, no. 4 (July 2003): 537-62, <https://doi.org/10.1080/02673030304249>.

⁷³ Brook, 'Research Report 11: Environmental Exclusion Review', 1.

⁷⁴ Matthew Carmona and Claudio de Magalhães, 'Local Environmental Quality: Establishing Acceptable Standards in England', *Town Planning Review* 80, no. 4-5 (July 2009): 517-48, <https://doi.org/10.3828/tp.2009.9>; Talen, 'Neighborhoods as Service Providers'; Emily Talen, 'Measuring the Public Realm: A Preliminary Assessment of the Link between Public Space and Sense of Community', *Journal of Architectural and Planning Research* 17, no. 4 (2000): 344-60.

To be more accessible, a city should be well connected as well. **Connectedness** of urban spaces is also cited in the literature as a quality of built environments. One indicator of connectedness is the size of the urban blocks (i.e. number of the nodes and junctions in one hectare and the distance between junctions).⁷⁵ It is argued that smaller blocks can create well-connected built environments since they offer more options for pedestrians to move around the city easily and populate more streets.⁷⁶ The populated routes are usually preferred to deserted and quiet ones (it encourages active and passive social connections), as they can create a sense of safety for both dwellers and passers-by, particularly in mixed-use areas where people can engage with the neighbourhood more actively, while large urban blocks with little activity have the opposite effect, especially after dark.⁷⁷

Another important aspect often mentioned by participants was the **maintenance** of the neighbourhoods, covering, besides the general level of cleanliness, the quality of the infrastructures, public spaces and the condition of roads, pavements, façades and windows. Inhabitants often refer to cleanliness and infrastructure maintenance of the neighbourhood as top concerns. For instance, as mapped earlier, some of the deprived areas (e.g. Highfield as well as in the eastern part of Sheffield) are considered to be dirty, unsafe and neglected. Public spaces should not only be safe but also need to be well maintained. Dirty streets with broken pavements, uncollected rubbish and graffiti not only discourage residents from using public spaces, have a bad visual impact and a negative influence on health but also imply that 'nobody cares'.⁷⁸ Moreover, the *broken window theory*, as argued by Wilson and Kelling, indicates that material decay, cosmetic damages and broken façades can invite criminal activities or increase severe anti-social behaviour.⁷⁹ Although the UK government is aware of these issues and has adopted the aim of well-maintained neighbourhoods as part of its liveability plan⁸⁰, these issues remain a concern for residents in Sheffield. The maintenance of built environments depends on two aspects. Firstly, it depends on the quality of the physical environment and on services provided by local authorities to maintain the quality.⁸¹ Secondly, it depends on socio-cultural aspects. Citizens' sense of belonging and taking care of the environment has a major influence on the maintenance and cleanliness of a neighbourhood. Participants mentioned in the discussions that although some of the deprived neighbourhoods (e.g. Parson Cross, Manor) are recipients of regeneration projects, anti-social behaviour and vandalism deteriorate the area often in a short period of time.

The above aspects were discussed by the participations as qualities that affluent neighbourhoods hold and deprived neighbourhoods lack, and whose uneven distribution in the city was considered as unjust. Such differences in quality were thought to exist between the east side of the city (with mostly deprived population) and the west side (mostly well-off population).

Since many of the conversations pointed also to socio-cultural aspects (especially in phase 1) rather than physical aspects, it is safe to assume that, (unlike what most environmental determinist assume)

⁷⁵ There is little evidence of what size of urban blocks is desirable but in one example Burton and Mitchell suggest that it is better to have street blocks with "varying short lengths from around 60–100 m to allow for variety. The longer streets should be gently winding to break up the length and to provide slowly emerging views as people walk along. Streets should also, preferably, be relatively narrow to help maintain concentration." Elizabeth Burton and Lynne Mitchell, *Inclusive Urban Design: Streets for Life* (Amsterdam: Architectural Press [u.a.], 2006), 74.

⁷⁶ Bentley, *Responsive Environments*; Tony Aldous and Urban Villages Group, eds., *Urban Villages: A Concept for Creating Mixed-Use Urban Developments on a Sustainable Scale* (London: Urban Villages Group, 1992); Allan B Jacobs, *Great Streets* (Cambridge, Mass.: MIT Press, 1995), 178–87.

⁷⁷ *Towards a Fine City for People*; Gehl, *Life between Buildings*, 12–17.

⁷⁸ Worpole, K., 'The Social Dynamic', in *Urban Villages and the Making of Communities*, ed. Peter Neal (London: Spon Press, 2003), 130.

⁷⁹ George L. Kelling and James Q. Wilson, 'Broken Windows', *The Atlantic*, March 1982, <http://www.theatlantic.com/magazine/archive/1982/03/broken-windows/304465/>.

⁸⁰ Great Britain Office of the Deputy Prime Minister, 'Living Places: Cleaner, Safer, Greener' (London: The Stationery Office Limited, 2002), 5–10.

⁸¹ Great Britain and Richard George Rogers, eds., *Towards an Urban Renaissance* (London: Spon, 1999).

the perception of a neighbourhood was vastly influenced by that of neighbourhood's residents, activities, events and the overall social context and less by physical qualities, unless they were in a visibly very bad condition.

Political and economic theme

Distributive *inequality* was often brought up in relation to the experiences of (in)justice and was viewed in different ways. Sheffield as a labour city was in the eye of its residents often affected by exploitation, deprivation and unjust treatments. Closure of the steelworks, unemployment, repression of workers and unions has impacted the residents' memory as injustices that Sheffield has endured. Deprivation and poverty were considered as an outcome of such policies. Almost all the participant believed that deprivation and poverty in Sheffield have political and economic roots and hold governing organisations and neoliberal policies responsible for such injustices in Sheffield. Large income gaps, cuts in social welfare and benefits and exploitation of workers for the benefit of the rich were among the issues mentioned by participants as having significant impact on deprivation and experiences of injustice among Sheffield residents. Additionally, tax avoidance by affluent individuals and corporations was raised in heated conversation as unjust. Thus, the governing organisations' responsibility for just distribution of wealth and goods through robust and fair *taxation* as well as effective regulatory mechanisms that can close the loopholes and ensure a fair contribution of social benefits were among the suggestions for ways to tackle deprivation and approach distributive justice.

Furthermore, some participants shared their personal experience of deprivation, poverty and economic difficulties, mentioning 'care', 'sympathy' and 'attention' for the disadvantaged as essential while suggesting that there is an excessive need to provide better opportunities to enable less fortunate to move up the social ladder. Therefore, low levels or lack of *social mobility* was considered to be of great importance and an essential topic to be addressed.

Moreover, many people stated that they felt they did not have the *power (voice)* and political influence to change the overall economic conditions and to impact the decision making, being under the impression that they were neglected or not being heard, even though some pursued their demands through *active political involvement*. It is important to acknowledge the significance of city inhabitants' role in co-producing a just vision for their city. For instance, in relation to planning, the discursive governance of decision-making procedures is, as presented in Chapter 2, essential for the development of more effective just policies. Notably, participation structures (and the city itself) need to be flexible and provide people with a 'right to re-appropriate' as Lefebvre demands, henceforth opening up questions about people's rights, their social welfare and injustices that take place due to neoliberal policies; policies that are fixated on increasing competitiveness, mainly focused on economic growth and driven by a desire to increase return on investment.

Development inequity was revealed as another quality. Some participants argued that it was unjust that certain neighbourhoods (e.g. Parson Cross), that were well known for their high degree of deprivation, were frequently the beneficiaries of regeneration and development projects despite the fact that these efforts were repeatedly undermined by antisocial behaviour and vandalism, while other areas, i.e. those with a higher number of ethnic minorities such as Highfield (Sharrow) and some of the marginal neighbourhoods, still remained neglected. Even though certain disadvantaged

neighbourhoods in Sheffield received more public funding, this was not considered as a targeted support to deal with all localised issues. It was also believed that some of these funds directed to blanket social issues were not particularly appropriate for the diverse backgrounds of people living in multicultural neighbourhoods. There was a general consensus among participants that there is a need for a more localised control over public services and that the local authorities need to properly include the population in the process of designing and planning their own services.

Furthermore, residents from affluent areas believed that their neighbourhood was deteriorating due to unfair treatment by the local government through what they called 'positive discrimination' against them. Residents of these areas mentioned that this unjust behaviour was due to the *political inclination* of the Labour City Council toward deprived neighbourhoods while affluent areas (with a political affiliation to the Liberal Democrats Party) were ignored. In contrast, participants from less privileged neighbourhoods believed that not only was it easier for well-off areas to attract private investors, but also that affluent residents had the social and economic capital to pressure local authorities for their demands. Similar to what has been discovered here, other studies⁸² show that higher levels of education, occupation status and income as well as familiarity with procedures for applying for grants combined with a higher engagement with governing organisations were argued to be attributes that enabled affluent neighbourhoods to be well represented and more noticed, thus enabling them to have their demands met. Contrary to this, residents with a lower status, and particularly residents with ethnic backgrounds, and with limited capital, are less vocal about their issues and less knowledgeable about the processes and means to pursue their demands and are thus rather underrepresented or neglected.

As was pointed out by participants, the experience of (in)justice is also shaped by the political-economic context of the contemporary society — a structural inertia and therefore difficult to change.⁸³ Indeed, changing government's rhetoric is beyond the scope of this research; however, it shapes the context in which people's perceptions, experiences and actions develop. Thus, it is essential to map the perception of people toward the governing organisations, their active involvement in shaping the political-economic context and pursuing their demand for a more just city.

Social theme

In terms of social theme, it can be observed that people with a different *identity* (e.g. national, ethnic or religious identity) have different experiences of *discrimination* and *(in)justice*. The social dimension of (in)justice and experiences of discrimination can occur in a multitude of contexts, some of which (e.g. employment discrimination) are out of the remit of this study. Here I focused on the aspects that occur within the spatial framework of the neighbourhood and city and that emerged in the conversation with participants in the mapping practice.

Lacking a *sense of community* among residents can influence and proliferate experiences of (in)justice. In general Sheffield was perceived as a friendly city by many participants. This was related

⁸² Leighley and Vedlitz, 'Race, Ethnicity, and Political Participation', 1110–11; Just and Anderson, 'Opinion Climates and Immigrant Political Action', 954.

⁸³ Susan S. Fainstein, 'Planning and the Just City', in *Searching for the Just City: Debates in Urban Theory and Practice*, ed. Peter Marcuse and James Connolly, 1st ed. (Routledge, 2009), 19–39.

to the sociability and supportive attitude of Sheffield residents. Undeniably, social relations, especially weak ties among neighbours, have an impact on the way communities were regarded. Not all neighbourhoods received the same positive reactions however. Participants distinguished communities based on the positive and negative interactions among neighbours as well as the type of social activities taking place there (e.g. supportive neighbours and community or anti-social behaviour).

In traditional discourses⁸⁴, strong ties and social networks among residents were considered more desirable. However, more recently it has been contended that the reoccurrence of weak ties exceeds strong ties with a large margin and, on top of that, weak ties are considered to improve the sense of security, ease, identity and place attachment,⁸⁵ which, as was discovered here, is of importance particularly in multicultural neighbourhoods. In the era of Internet and social media, social networks have become more spatially diffused and are continuously changing over time. A recent research⁸⁶ in Britain shows that although for the majority of people kinship and close relations with family are more important and hold a higher priority, friends and acquaintances are more frequently contacted and visited. In this context, knowing individuals' *priorities* can be beneficial for understanding how important family, friends, neighbours, work or religion are for residents and the degree to which these priorities impact their activities and relations in the neighbourhood.

Pahl and Spencer⁸⁷ suggest that the role of friendship and weak ties as a support network is on the rise and is potentially succeeding the traditional role of families as they become harder to maintain. They argue that the role of friends and acquaintances is undervalued even though they can potentially be a significant source of contemporary social cohesion. Therefore, micro-social worlds, friends and friend-like relationships that are not necessarily locally-based are becoming more and more support systems to cope with life, particularly in difficult times. In short, the overall view is that a friendly society founded on reciprocity and trust is more harmonious, socially cohesive and just.

Participation in social activity, co-operation and kinship also emerged to have a positive impact on the way a community was viewed while at the same time generating trust, safety and a **sense of place attachment**. Together these qualities ultimately contribute to a more cohesive and just neighbourhood. Facilities and leisure spaces that enable social interaction, such as community centres and social activity programs, as well as safe, good quality public spaces and recreational places (e.g. pubs, restaurants, shops) were perceived as necessary by participants to enable the shaping of a strong and lively community environment. Multifunctional neighbourhoods, with a diversity of activities can increase creating weak ties and reoccurrence of modest social activities (even passive social activities such as seeing or hearing other people in the street) which was also emphasised by Jacobs and Gehl as a necessary quality of neighbourhoods.⁸⁸

Trust and perceived safety were two important qualities that often emerged when discussing (in)justices in different neighbourhood communities. Economically deprived communities as well as neighbourhoods with a higher number of ethnic minorities (e.g. Parson Cross and Highfield) were perceived as unsafe by some of the participants. However, the residents of these neighbourhoods

⁸⁴ Granovetter, 'The Strength of Weak Ties', 1360–61.

⁸⁵ Henning and Lieberg, 'Strong Ties or Weak Ties?', 20–22.

⁸⁶ MCGLONE, F., PARK, A. and ROBERTS, C., 'Relative Values: Kinship and Friendship', in *British Social Attitudes: The 13th Report*, ed. Roger Jowell and Social and Community Planning Research, 1996/97 ed (Aldershot: Dartmouth, 1996), 53–72.

⁸⁷ Liz Spencer and R. E. Pahl, *Rethinking Friendship: Hidden Solidarities Today* (Princeton, N.J: Princeton University Press, 2006), 128–56.

⁸⁸ Gehl, *Life between Buildings*, 13; Jan Gehl, *Cities for People* (Washington, DC: Island Press, 2010), 23; Jacobs, *The Death and Life of Great American Cities*, 29.

often protested that there was a degree of misjudgement about such communities and although there was consensus that there was some degree of undesirable behaviour, conducted by small number of people, this should not be extended to the whole community. Residents pointed out that positive social interaction, mutual trust among neighbours, reciprocity in providing support and help in moments of need can increase the feeling of safety and security among residents (e.g. taking collective action to reduce anti-social behaviour in collaboration with city authorities in Parson Cross.)

Indeed, co-operation, mutuality and involvement in social activities impacts the sense of community since it is a manifestation of the incorporation of individual citizens actively contributing in a social setting. On this basis, a society is just and cohesive when "*dilemmas and problems can be easily solved by collective action.*"⁸⁹ The consensus among various literatures⁹⁰ is that challenges, aims and contrasting values can be faced, achieved and recognised through collaboration, engagement and communication. Furthermore, trust is argued to be a constituent aspect of social cohesion as it lubricates cooperation and reciprocity, but also collaboration and mutuality themselves generate trust; and as outcome, social cohesion is "accumulated".⁹¹ Putnam states that "*the civic community is marked by an active, public-spirited citizenry, by egalitarian political relations, by a social fabric of trust and cooperation.*"⁹²

Depending on the neighbourhood, weak bonds of trust among strangers or acquaintances are claimed⁹³ to be growing compared to those with friends and neighbours and, as a consequence, diminishing social interactions can reveal themselves as lack of contact and avoidance; nevertheless, trust is considered to be an important element to evaluate social order in the neighbourhood.

Moreover, participants mentioned trust and the perception of safety to interdependently influence each other in the neighbourhood. Residents' interaction and cooperation can shape and improve in an environment without disorder and when individuals feel safe from contrasting value conflicts or criminal harm. Therefore, perceived safety is a necessity for any positive social activity.⁹⁴

Altman and Low find that attachment to a place positively contributes to improving self-esteem, generating a sense of safety and security, creating a symbolic bond to people, past experiences, ideas and culture, helping to connect to people who are important to us, and finally, to a sustaining group and individual identity.⁹⁵ This seems to be a compelling explanation as to why people often are territorial in their behaviour and often feel that they belong to a specific place. For example, residents of Parson Cross showed a strong sense of place attachment and pride for their community and often protested that the community is misjudged for the actions of few. In contrast, some participants (with

⁸⁹ Kearns and Forrest, 'Social Cohesion and Multilevel Urban Governance', 1000.

⁹⁰ Paul Skidmore et al., *Community Participation: Who Benefits?* (York: Joseph Rowntree Foundation, 2006); John C. Buckner, 'The Development of an Instrument to Measure Neighborhood Cohesion', *American Journal of Community Psychology* 16, no. 6 (December 1988): 771–91, <https://doi.org/10.1007/BF00930892>; R. Lev-Wiesel, 'Indicators Constituting the Construct of "Perceived Community Cohesion"', *Community Development Journal* 38, no. 4 (1 October 2003): 332–43, <https://doi.org/10.1093/cdj/38.4.332>.

⁹¹ Robert D. Putnam, 'Foreword', *Housing Policy Debate* 9, no. 1 (January 1998): 5–8, <https://doi.org/10.1080/10511482.1998.9521283>; Robert D. Putnam, Robert Leonardi, and Raffaella Y. Nanetti, *Making Democracy Work: Civic Traditions in Modern Italy*, 5. print., 1. Princeton paperback print (Princeton, NJ: Princeton Univ. Press, 1994), 171.

⁹² Putnam, Leonardi, and Nanetti, *Making Democracy Work*, 17.

⁹³ M. P. Baumgartner, *The Moral Order of a Suburb* (New York: Oxford University Press, 1988), 90, 134–37; Sophie; Body-Gendrot Body-Gendrot Sophie, *Social Control of Cities?: A Comparative Perspective*. (Chichester: Wiley-Blackwell, 2011), xix.

⁹⁴ For more info please see: Hugh Barton, ed., *Sustainable Communities: The Potential for Eco-Neighbourhoods* (London: Earthscan Publications, 2000); Hugh Barton, Marcus Grant, and Richard Guise, *Shaping Neighbourhoods: A Guide for Health, Sustainability and Vitality* (London: Spon, 2003); Emily Talen, 'Sense of Community and Neighbourhood Form: An Assessment of the Social Doctrine of New Urbanism', *Urban Studies* 36, no. 8 (1 July 1999): 1361–79, <https://doi.org/10.1080/0042098993033>; Großbritannien, ed., *By Design: Urban Design in the Planning System; towards Better Practice* (London: Telford, 2000).

⁹⁵ Irwin Altman and Setha M Low, *Place Attachment*, 1992, 258–59.

ethnic background) agreed that there is a strong community among people of the same identity (in Parson Cross) however, they are not welcoming to people of other ethnic backgrounds.

Moreover, Fukuyama points to a shift in communities that are moving away from broader engagement with society, such as engagement with political parties and unions, toward more narrow, single-issue group activities that can result in miniaturisation of communities.⁹⁶ Putnam or Altman and Low do not define how much of an attachment to a place or a development of group identities is desirable. If the attachment is too strong it can create inward looking communities that are closed and intolerant to other values, identities and groups and consequently do not share understanding with others 'values or contribute to the wider society. In this case an outsider to these values would be isolated, marginalised and not recognised in the community, which would eventually lead to unjust behaviours.

Accordingly, this issue emerged multiple times in the discussions; there was a degree of misrecognition and lack of trust and cooperation toward residents with diverse ethnic backgrounds. Not all residents experienced positive social interactions in their neighbourhoods. Bigotry, harassment and anti-social behaviour lead to a marginalisation of those who did not share similar values.

Therefore, **tolerance and recognition** of diverse social and cultural values manifested themselves as important qualities that recurrently emerged in relation to the experience of (in)justice and discrimination. Almost all participants agreed that there was a cultural division between more marginal neighbourhoods in Sheffield on the one hand, where one ethnicity is dominant (e.g. white working class in Parson Cross), and which were perceived as not welcoming to others, and, on the other hand, multicultural areas located closer to the centre of the city (e.g. Sharrow (Highfield)). Ethnic minorities (particularly Middle Eastern in this experiment) most often shared their experience of discrimination, verbal harassment, name-calling and mistreatment, not only by the urban community but also on the educational and professional level, which shattered their *sense of place attachment, sense of identity and sense of community*. Therefore, to achieve a just city, it is important for the residents to be able to identify themselves as part of the community that they perceive as home and for their social and cultural values to be recognised.

The aim for a more just and harmonious society is to create an environment in which people can associated with more than one identity and more than one territory and that they are willing to engage with or at least are tolerant of other values and identities. To achieve such goals, higher spatial mobility and free movement of people has been encouraged by the European Union to create a more multicultural lifestyle and more cosmopolitan experience.⁹⁷ In contrast, it has been debated that too much mobility can also cause inward looking families and isolated individuals that invest less effort to engage with the community; in this way well-off societies with a high rate of mobility were claimed to be losing community bonds.⁹⁸

⁹⁶ Fukuyama, *The great disruption*, 84–89.

⁹⁷ Laurie Pickup, *Mobility and social cohesion in the European Community: a forward look*, EF, 90,38 EN (Luxemburg: Amt für Amtliche Veröff. der Europ. Gemeinschaften, 1990); Rokkan, Urwin, and European Consortium for Political Research, *The Politics of Territorial Identity*, 1–17.

⁹⁸ Sally Ann Shumaker and Daniel Stokols, 'Residential Mobility as a Social Issue and Research Topic', *Journal of Social Issues* 38, no. 3 (October 1982): 1–19, <https://doi.org/10.1111/j.1540-4560.1982.tb01767.x>.

Furthermore, it often emerged in the discussions that ethnic minorities were mostly in contact with people of their own ethnicity and trusted mainly their own community rather than others. A similar study⁹⁹ conducted in multicultural neighbourhoods in Copenhagen, also shows that trust, social connections, social interaction and community collaboration emerged in general as lower in multicultural neighbourhoods than monocultural communities. However, as was discussed by participants, these qualities are not a prime concern in multicultural communities, e.g. Sharrow, (although they are favoured) but rather weak ties, tolerance, acceptability, inclusion and micro politics are far more important for a harmonic coexistence and accordingly to achieve a just society.

To understand the overall social satisfaction in the neighbourhood, the **happiness** of the neighbourhood's residents is also considered a quality. Happiness comprises a complex interrelation of social, personal, health and economic criterion that is beyond the scope of this research. However, there are a number of researches¹⁰⁰ that show social relations, recognition and sense of belonging to a community have a positive impact on mental health and happiness. Happiness can change on a daily basis for an individual and depends on an immense number of factors. In this case the point of mapping happiness would be to understand the general satisfaction of the residents in relation with the socio-spatial quality of their living environment.

These themes and qualities that emerged in the first two phases of mapping showed that (in)justices are not fixed to distributive and economic factors, but are multilevel and interdisciplinary. They are formed by many interlinked factors, which go beyond spatial and infrastructural elements of the city, even if inclusive of those. Thus, it became clear that no one measure can, on its own, contribute to the radical changes needed in order to truly achieve a more just city. The issues are multiple, complex and require a collection of integrated and situated approaches rather than a reductionist perspective of infrastructural measures or short-term economic fixes that the distributive approach offers.

Nevertheless, being (or becoming) conscious, civically-minded and engaged in addressing (in)justices appears to be equally important, and potentially achievable through facilitating pedagogy and civic life-long learning opportunities. Accordingly, acknowledging factors other than spatial or infrastructural (as proposed by distributive approaches), is therefore essential when designing, planning and developing policies aimed at changing the ways people live their lives and achieving a more just city.

⁹⁹ Tina Gudrun Jensen, 'Neither Trust Nor Distrust', *Nordic Journal of Migration Research* 6, no. 1 (1 January 2016): 31, <https://doi.org/10.1515/njmr-2016-0009>.

¹⁰⁰ Carol Propper et al., 'Local Neighbourhood and Mental Health: Evidence from the UK', *Social Science & Medicine* 61, no. 10 (November 2005): 2065–83, <https://doi.org/10.1016/j.socscimed.2005.04.013>; I. Shiu, 'Neighbourhood Satisfaction and Happiness but Not Urbanization Level Affect Self-Rated Health in Adolescents', *Scandinavian Journal of Public Health* 40, no. 5 (1 July 2012): 498–500, <https://doi.org/10.1177/1403494812449081>; Unni K. Moksnes and Geir A. Espnes, 'Self-Esteem and Life Satisfaction in Adolescents—Gender and Age as Potential Moderators', *Quality of Life Research* 22, no. 10 (December 2013): 2921–28, <https://doi.org/10.1007/s11136-013-0427-4>.

Table 5-1. Explored physical, political-economic and social qualities

Physical theme (qualities)	Summary of quality(s)	Scale of the quality	Number of questions (strata)
Attractiveness (aesthetic)			
Degree of green space	Distribution of green spaces and trees in the street	Neighbourhood & Street	2
Perceived attractiveness	Respondents' perception of attractiveness for different areas	City	1
Level change and façade complexity	Change of level in the buildings and movements in public façades	Neighbourhood & street	1
Landmarks and iconic buildings	Number of iconic buildings and landmarks (per hectare)	Neighbourhood	1
Character			
Material and architectural style	Architectural style/type (detached, semi-detached, terraced) and materials used in the neighbourhood	Neighbourhood	2
Urban Layout	Urban form and street design/patterns	Neighbourhood	1
Connectedness			
Junctions	Number of junctions (per hectare)	Neighbourhood	1
Crossings	Number of crossing (per hectare)	Neighbourhood	1
Block size	Average distance between junctions per street	Street	1
Nodes	Number of nodes (per hectare)	Street	1
Mixed Use			
Mix of land uses	Distribution and mix of services	Neighbourhood	1
Local services	Number of local facilities in the neighbourhood	Neighbourhood	1
Maintenance			
Material quality	Respondents' satisfaction of quality of materials & maintenance and view on what needs improvement.	Neighbourhood	12
Overall quality of public spaces in the neighbourhood	Respondents' general satisfaction of quality of public spaces in the neighbourhood	Neighbourhood	1
Grade of litter	Level of litter (trash, gum, etc.)	Neighbourhood	1
Pavement condition	State of pavements	Neighbourhood	1
Façade and window state	Condition of façades (graffiti, dirt, broken windows and doors)	Neighbourhood	1
Accessibility			

Neighbourhood amenities	Residents' Satisfaction of neighbourhood amenities	Neighbourhood	9
Public transportation availability & distribution	Number of bus, tram/tube stations/stops (per hectare)	Neighbourhood	1
	Distribution of public transportation in walking distance	Neighbourhood	1
Access to city	Extend of access of neighbourhood to different areas in the city without change	Neighbourhood	1
Density			
Household	People per household	Neighbourhood	1
Gross	Household and people per hectare	Neighbourhood	1
Political-economy theme	Summary of quality(s)	Scale of the quality	Strata
Social mobility			
Perception of social mobility	Respondents' perceptions of the chance of being able to move up the socio-economic ladder	Individual	1
Inequality			
Government's responsibility	Responsibility for fair distribution of goods	National	3
Income gap	Differences in income and class gap	National	4
Opportunity	Available opportunities for all	National	1
Perception of development inequity			
Uneven development in the neighbourhood	Respondents' perceptions of uneven development in the city or neighbourhood being neglected	Neighbourhood	1
Active political engagement			
Political activism	Active protest against unfairness	Individual	1
Economically active	Respondents' perceptions on actions toward economically disadvantaged people	National & regional	2
Taxation			
Fairness of tax allocation	Respondents' perceptions of fair taxation	National	1
Scale of taxation	Respondents' perceptions of size of tax	National	2
Political inclination			
Political spectrum	Respondents' affinity with political parties	Individual	1
Power (voice)			
Political influence	Respondents' perceptions of their influence in decision making	Individual	1

Social theme	Summary of quality(s)	Scale of the quality	Strata
Perceived identity (classification)			
National identity	Respondents' preferences of their national identity	Individual	2
Ethnic identity	Respondents' ethnicities and preferred culture	Individual	2
Religious identity	Respondents' preferences of their religious identity	Individual	1
Perceived injustice			
Injustice based on identity	Respondent's experience of injustice based on his/her identity	Individual	1
Perceived discrimination			
Response to discrimination	Respondent's action to avoid discrimination	Individual	4
Discrimination based on identity	Respondent's experience of discrimination based on his/her identity	Individual	1
Priorities			
Importance of different social aspects	Respondents' opinion on importance of work/leisure, religion, friends, family and neighbourhood	Individual	6
Sense of community			
Positive interaction among people	Feeling of help and positive interaction among people	Neighbourhood & household	3
Negative interaction among people	Negative interactions and lack of communal pride among people	Neighbourhood & household	2
Participation in social activities			
Active participation	Participation in organised activities in the neighbourhood	Neighbourhood	1
Trust and perceived safety			
Mutual trust among neighbours	Degree of trust among neighbours	Neighbourhood	1
Support among neighbours	Respondents' perceptions on neighbours' assistant in case of danger or crime	Neighbourhood	3
Perception of safety	Respondents' experiences of safety or crime in public places	Neighbourhood & city	12
Tolerance & recognition			
Acceptability & inclusion	Tolerance/recognition and inclusion of people with diverse values	Household & individual	2
Sense of place attachment			
Attachment to neighbourhood	Degree of attachment to the neighbourhood	Individual	2

Attachment to geographic group	Sense of belonging to a bigger or smaller geographic group (local, city, country, continent or world)	Individual	1
Happiness			
General happiness	Respondents' general satisfaction and happiness with the community and living environment	Individual	1

5.4 Reflections on the Storytelling and Map Art methods

The issues mapped and presented by the first two phases of mapping represent some of the events, experiences and conditions of the city and studied sites, but they are not the only ones, as all maps are selective and limited. They are, nevertheless, significant to the activity of exploration. The process is not only a repositioning of the map-maker but also a re-exploration of physical, political and social space, and as such some of the qualities become - at least for some time - perceptible and visible.

As a repositioning process, it displaces the map-maker, planner, designer or researcher from their own position toward others' positions and allows for multiple viewpoints to emerge. As a re-exploration, it addresses issues that the map-makers and participants came across, allowing the process to define and redefine (in)justice. Some of the information was poured on the canvas and visualised straight away, while others - perhaps the even more important ones - emerged out of the conversations triggered by the map.

The Storytelling method allowed for an open and flexible environment in which to explore aspects, qualities and themes that are related to people's experiences of (in)justice. As an exploratory process this mapping gives the participant the chance to define and identify properties of (in)justice or to direct the story into areas which they consider more significant.

By letting participants decide how to express and develop their story, they can feel more at ease when discussing positive or negative experiences (particularly if they feel the interviewer is sympathetic). I decided to conduct this social experiment not only to explore some of the aspects that cause residents of Sheffield to experience (in)justice but also to be able to connect to them, which gave me the possibility to displace myself. This is in accordance with the feminist position of this thesis which acknowledges the partiality of the subject (researcher, mapper, designer), knowing that knowledge is socially constructed and not value free. Following feminist objectivity (strong objectivity), this method is not about splitting subject and object but about constant displacement of one's self.¹⁰¹

Each of the participants, who all trusted me to share their story with me, took me on a journey to see the city from their point of view and to experience good and bad the same way as they do. Stories are a way of knowing. When telling stories, people select details of their experiences from their stream of consciousness.¹⁰² During the process of telling a story people constantly select their experiences,

¹⁰¹ For further information please see Chapter 2 feminist standpoint and Sandra G. Harding, *Whose Science? Whose Knowledge?: Thinking from Women's Lives* (Ithaca, N.Y: Cornell University Press, 1991).

¹⁰² L. S. Vygotskii and Alex Kozulin, *Thought and Language*, Translation newly rev. and edited (Cambridge, Mass: MIT Press, 1986), 236,237.

reflect on them, put them in order and make sense of them.¹⁰³ I did not want to influence the interviewees/storytellers or make them feel uncomfortable when expressing themselves, thus I avoided recording. However, even if I had had the permission, video and audio recordings of these gestures could not have fully represented or embodied what can only be experienced by being there in that moment.

Among participants there were those who spared more time and expressed themselves in a more personal and sentimental manner but also focused more on the topic of (in)justice as the conversation progressed – since I had the chance to steer the conversation. Short conversations however occurred more frequent and thus it was possible to talk to more people in a shorter period of time, albeit in less depth. Additionally, although some of the short conversations were not particularly personal, they offered a sense of everyday matters and described more efficiently what shapes their experiences of Sheffield. They provided a brief overview of the city and neighbourhoods as experienced. Storytelling in general became a window for individuals to express themselves through their experiences of (in)justice, having a therapeutic and cathartic value for the participant.

Moreover, during the conversations I offered participants the possibility to further express themselves by drawing on the map, and although some of the participants quickly drew a circle, line or a jagged line around the areas where their story took place, most decided not to engage in this activity — feeling either too shy or satisfied enough by pointing to a location. In this case I decided not to insist on this activity and to allow for the participant to do as s/he feels comfortable. Although engagement in this type of complementary activity can help to unwind, the type of the activity should be encouraging (rather than discouraging) more participation, which is a point that I tried to address in my next experiment (Map Art).

The Map Art builds upon the insights gathered from the Storytelling phase. Through Map Art, a collaborative, participatory and performative mapping method, the collective perception of (in)justice in the city was mapped. In this phase, maps were used as intermediary tools to not only capture collective perception but also to engage citizens for further collective interviews. In this way, common and contrasting opinions and experiences further broadened the themes and qualities of (in)justice identified in the previous phase by adding different angles that people with diverse social values and different subjectivities bring to the mapping.

The Map Art 'gathers' information from the participants and 'shows' them at that very moment. This simultaneous representation of information makes visible what is otherwise hidden and inaccessible and allows the participants to respond to the map and discuss the results in that moment. The presentation of information may appear at first incongruous or untimely, but nevertheless, it harbours a vast potential for the unfolding of alternative conversations and interpretations. Mapping here falls under Corner's remarks on *Maps and Reality*:

"Mapping is neither secondary nor representational but doubly operative: digging, finding, and exposing on the one hand, and relating, connecting and structuring on the other. Through visual disclosure, mapping both sets up and puts into effect complex sets of relationship that remain to be more fully actualized. Thus, mapping is not subsequent to but prior to landscape and urban formations. In this sense, mapping is returned to its origins as a process of exploration discovery

¹⁰³ Alfred Schutz, George Walsh, and Frederick Lehnert, *The Phenomenology of the Social World* (Evanston, Illinois: Northwestern University Press, 4197), 12, 05.

and enablement. This is less a case of mapping to assert authority, stability and control, and more one of searching, disclosing and engendering new sets of possibility. Like a nomadic grazer, the explanatory mapper detours around the obvious so as to engage what remains hidden."¹⁰⁴

What was mapped in these practices were not physical forms and their locations, but rather indications of qualities and their effects on people as an active milieu itself; the mapping engages with the actual reality of the place as well as with potential ones. Thus, both mapping processes show the city as each of the inhabitants had imagined it but which was never realised as such. In this way mapping is not reduced to a physical representation of city objects or a separate analytical phase of the design process but the map making process becomes rather a part of the experience that interprets and reinvents the site.

In response to the question of the use, readability and function of a map or mapping process, I compare this mapping process to the conventional use of urban plan maps. Some cartographies are created by tracing physical objects and representing data in 2 dimensions (e.g. GPS or GIS), and since maps are selective, they show some but not all the information that exists on the site. They therefore serve a particular use (e.g. navigation). The process of their production does not reveal or explore experiences for the map-maker but, to stay objective, they attempt to mirror the existing conditions in the city. The final physical map will be used by visitors and travellers or planners, so their purpose is to be clear, easy to read and to ease navigation through the city. In contrast to this, the mapping experiments carried out here provide an enlightening experience for their makers. Through experiences that participants bring to the process of map making they re-explore the place and regenerate new interpretations that were invisible before the process and once again become invisible after. These kinds of maps may or may not be experienced by people other than those who were involved in the making of it, although they have this potential as well.

In the case of performative Map Art, the map as a final physical object is a piece of art; and in case of the Storytelling Map, the map as a physical object does not exist (in a conventional way). They are a process or a re-performance of the experiences of the city. Such a mapping procedure cannot be revisited, as the map exists while being engaged with the making of it and the information lies in the procedure and not necessarily in the viewing of it. The purpose of the map, as previously argued, is repositioning the map-maker, exploring the qualities and experiences and better understanding the city, (in)justice and people through performance and storytelling, and therefore the map as a final physical object does not even need to exist or have a reader in the first place.

That being said, it can still be argued that these maps have recipients and readers. In case of Storytelling Maps, the map exists as part of my argument and its 'being' rests upon the narrative that represents it. In the case of Map Art, the map has an amphibian life; its life began with the start of the mapping, it was shaped during the creation process and since then exists on the surface of a canvass as an art piece, but with map keys and guidelines it can also be read as a map.

During the map making days, two journalists and a few participants offered to buy the maps after the project was finished, one of which contacted me several times a year after to see the maps again and acquired one. Thus, I have decided to donate some of them to the enthusiasts who formed an

¹⁰⁴ James Corner, 'The Agency of Mapping', in *Mappings*, ed. Denis E. Cosgrove, Reprint, Critical Views (London: Reaktion Books, 2002), 225.

attachment to the map through the process of making it. This offers other ways for the map to exist even after serving its primary purpose. As Deleuze and Guattari remark, maps can be of any nature:

*"The map is open and connectable in all of its dimensions; it is detachable, reversible, susceptible to constant modification. It can be torn, reversed, adapted to any kind of mounting, reworked by an individual, group, or social formation. It can be drawn on a wall, conceived of as a work of art, constructed as a political action or as a meditation."*¹⁰⁵

Based on their argument, maps can exist in different forms. Like my own maps, they can come to existence in one way, then evolve or metamorphose to another and so fulfil different purposes, some of which might be unpredicted and unplanned, and propose other functions for the map. One of such functions was the map as a pedagogical tool, which became apparent on the first day of the Map Art-making process.

The pedagogical function of the Map Art can be summarised on two levels. First, there was the Map Art itself as a map and as a data visualisation tool representing responses of other participants. Almost all people who gathered around the map were curious about the meaning of the colours and what they signify. By knowing the meaning of the colours, they could read the map, reinterpreted it for themselves, learn what others thought of different areas of the city and then comment on whether they agreed or disagreed. Becoming aware of other experiences and viewpoints on different aspects of (in)justice in the city has become a source of knowledge not just for me as researcher but for all those who were involved in the process and so all of us experienced self-displacement and repositioning. In this way the mapping process created awareness about others' unjust experiences that the participant might not have known about and potentially provided a basis to take action for changing such (in)justice in the city.

Second, many of the participants were eager to know more about the topic of conversation, seeking the 'correct answers' or my views on the subject. At the beginning of the interviews I avoided providing such information and tried to minimize my input and airtime and allow for the participants to entirely express their viewpoint. When the opportunity presented itself from the second day forward I provided information sheets with references to current studies on Sheffield and (in)justice and fairness groups, websites and communities and offered them to the participants at the end of our sessions to raise awareness. I also invited the participant to be further involved in the research and recruited more participants for the next phase of mapping, i.e. the survey.

Performative mapping can also be viewed as a playful mimesis of the city. Playful in a sense that the map being created was a game played by the participants in order to mimic the city as experienced by them and therefore, through this process re-visit, understand and re-interpret the city.

The 'performative' characteristics of mimesis was underlined by Nietzsche in a new meaning that he defined by going beyond the Greek philosophical understanding of mimesis and play. For Nietzsche play and mimesis are "*a 'performative', dramatic representation where the artist takes art personally.*"¹⁰⁶ Therefore, from Nietzsche's point of view the only way for people to find the truth is by embodying art through play. Within the context of this mapping it can be argued that storytelling

¹⁰⁵ Gilles Deleuze and Félix Guattari, *A Thousand Plateaus Capitalism and Schizophrenia*, trans. Brian Massumi (London: Continuum, 2008), 14.

¹⁰⁶ Wong Kwok Kui, 'Nietzsche, Plato and Aristotle on Mimesis [Wong Kwok Kui]', accessed 23 February 2017, <http://www.dogma.lu/txt/KwokKuiNietzschePlatoAristotle.htm#fn11>.

and re-living the joy, fear and worries of the storyteller were a way for the mapper to step out of his/her own shoes in order to become momentarily the other person. What is gained through this mimetic practice is a redefinition of self and subjectivity of the map-makers, researchers or the designers and the people who collaboratively engaged in the maps' production, but it is not a measurable, tangible outcome that can be rationally quantified.

In short, Storytelling and Map Art became a method to unveil, define and redefine (in)justices. They revealed how (in)justices were experienced, conceptualised and left their trace on the subjectivity of each individual. Drawn maps are useful in recording physical locations but perhaps even more important are the attitude, gesture, tone and body language when describing the experiences or narrating the personal story, as they represent subtle feelings and the embodiment of such experiences. These expressions cannot be turned into the physical form of a map and therefore disappear after the process of mapping has finished, but they leave behind their impression on the mapper (in this case me). These are some of the values and qualities that are missing in conventional mapping processes and analyses with particular positivist, distant and voyeuristic view toward (in)justice and inequality.

At the root of these methods is an interest in discovering and understanding the lived experiences¹⁰⁷ of others and the meanings they conclude from their experiences. It benefits the mapper, researcher and/ or designer to keep his/her ego in check by understanding that they are not the centre of the universe. It allows for a two-way process; hence the map-maker can never master the map, and neither can he dominate the outcome. The more tangible outcome of these methods was the exploration of the list of qualities that influence inhabitants' experiences of (in)justice. These qualities will be used for the production of a questionnaire and inform the creation of a tool to expand the mapping of these qualities in the wider scale of the city in the next phase.

Toward a tool for mapping multiplicities of (in)justice

The Storytelling Map and Map Art indicate diverse ways in which (in)justices in the city were experienced by its inhabitants and methods how to map them. In this process, (in)justice in the city began to emerge as complex and multi-layer issue recognised through various themes, qualities and disciplines.

Although the exploratory maps were conducted as experiments, the post-mapping discussions pointed to the value of expanding the subjective mapping process that can bring together a wider-range of participants and map these various and often heterogeneous qualities in a wider context. These mappings indicate how gathering and representing experiential data in a collective way can inform a method that maps (in)justice based on subjectivity and situatedness of inhabitants rather than the top-down perspective of the (traditional) mapper, planner or designer "*looking down [onto the city] like a god.*"¹⁰⁸

By moving from personal stories of (in)justice (in phase 1) to the collective Map Art (in phase 2), I have attempted in this research to experiment ways to widen mapping (in)justice while trying to keep the

¹⁰⁷ for further information on lived experience please see Max Van Manen, *Researching Lived Experience: Human Science for an Action Sensitive Pedagogy*, Second Edition (London New York: Routledge, Taylor & Francis Group, 2016).

¹⁰⁸ Michel de Certeau and Steven Rendall, *The Practice of Everyday Life* (Berkeley: University of California Press, 1984), 92.

subjective quality intact. The next chapter represents the 3rd phase, which attempts to broaden the mapping of (in)justice in a wider context. For this purpose, the qualities that emerged in the discussions during the previous two phases were turned into a questionnaire that was used to survey the three case study areas. While surveys come with certain limitations (e.g. lack of flexibility), the highly qualitative and subjective methods used in the first two phases provided the overall mapping method with the necessary flexibility and openness to explore and discuss the subjects. Therefore, using the survey will allow for a level of repetition and generality to be introduced, through which the overall mapping process can be broadened.

The insights gathered during these two experiments and the list of qualities were not only used to create a survey but also to inform different parts and features that needed to be included when developing a tool to map multiplicities of these qualities in the wider context of the city. Figure 5-14 represents the work flow and relations of different phases of overall mapping process.

Storytelling (Phase 1)

This phase contributes to the research process in the following ways:

First, from a methodological point of view, Storytelling maps facilitate access to the internal processes that form residents' memories and experiences, thus allowing the researcher (or mapmaker) to explore and investigate the way individuals experience (in)justice and its influencing aspects. Moreover, the process of storytelling helps to form a meaningful connection between teller and listener, enabling the researcher to displace him/herself from his/her subjective position and experience the position of others. Hence, in this way the mapmaker (designer/ researcher) does not dominate the map but facilitate its formation.

Second, mapping stories, memories and conversations **revealed overall themes** that describe where (in)justices are experienced and how they are shaped by various interlinked factors. These themes pose important challenges in relation to the achievement of a more just city, namely:

Physical

Covers aspects such as the degree of greenery and public spaces; material quality of the buildings, streets and public spaces; maintenance and cleanliness of the area.

It is worth mentioning that when stories refer to neighbourhoods, the conversations mostly revolved around socio-cultural aspects and activities that took place in the neighbourhood and less reference was made to the physical aspects. Thus it is safe to presume that many of the residents' perceptions of neighbourhoods were shaped by people, residents and activities and less by architectural qualities unless the physical quality of the buildings and public spaces, as well as the maintenance and cleanliness of the streets, were in a visibly very bad condition.

Political & Economic

Encompasses aspects such as lack of trust in and cynicism toward governing organisations; unfair distribution of wealth and uneven development of the city; unfair taxation and lack of equal opportunity for all; lack of social mobility; and residents' perception of lacking power to influence political and economic conditions with the belief that people lack the agency or voice to fundamentally change unjust processes.

Social

Includes experience of injustice, discrimination and deprivation related to identity (e.g. ethnic, national or religious identity); intolerance and unjust treatment toward those who do not share similar social and cultural values. Some related socio-spatial aspects, comprising aspects such as lacking sense of community, trust and safety among residents, experiencing isolation and not receiving support from the community; accordingly lacking sense of attachment and belonging to the community and experiences of rejection; disagreement among neighbourhood residents.

Experiment's process

The first activity carried out was to make an A1 board sign with the message "Tell me your Sheffield story". I took the sign to different parts of the Sheffield city centre, including Fargate, Peace Gardens, The Moor street and to the central parts of each case study neighbourhood, i.e. Margetson Cres (Parson Cross), Highfield Square (Highfield) and Hight Street (Dore).

Good weather encourages people to come to public places and increases the willingness to participate and spare time. For this reason, the exercise was carried out over 3 weeks during the summer. In total 64 individuals participated in the project, consisting of 54% male and 46% female. In terms of racial demography, the participants were 58% white, 30% Asian and 12% of black ethnic groups. Regarding age groups, participants included 43% mature (36-59), 44% young (20-35) and 13% elderly (60+) residents.



Map Art (Phase 2)

The Map Art builds upon the insights gathered from the Storytelling phase. In this phase, maps were used as intermediary tools to not only capture collective perception but also to engage citizens for further collective interviews. In this way, common and contrasting opinions and experiences **further broadened** the themes and identified qualities of (in)justice identified in the previous phase by adding different angles that people with diverse social values and different subjectivities bring to the mapping.

The explored themes and qualities that were identified in the first mapping experiment were further expanded and discussed among residents in the Map Art experiment. The discussions that took place during this exercise revealed 25 predominant qualities which were considered when developing Mapping Multiplicity in phase 3. These themes, which were discussed in chapter 5, depict (in)justice in the city as produced through subjective interpretations (i.e. perceptions of Sheffield residents) and visualised through Map Art.

Physical

- Attractiveness (aesthetic)
- Maintenance
- Visual complexity
- Character
- Connectedness
- Accessibility
- Density
- Mixed use

Political & Economic

- Social mobility
- Perception of development inequity
- Active political engagement
- Taxation
- Political inclination
- Power (voice)

Social

- Perceived identity (classification)
- Perceived injustice
- Perceived discrimination
- Priorities
- Happiness
- Sense of community
- Participation in social activity
- Trust and perceived safety
- Perception of safety
- Tolerance & recognition
- Sense of place attachment

Experiment's process

Each participant was presented with a printout of a topic/question and was asked to fill 9 blank spaces with relevant Sheffield neighbourhoods. Each of the nine spaces was assigned with a colour, ranging from warm to cold colours. After the participants responded to the question, the assigned colours were instantly poured on the respective areas of the canvas. This process was repeated for every participant until the canvas was entirely covered with paint. As the canvases were a minimum of 120 cm x 120cm it was possible to engage at least 25 participants with each map.



Mapping Multiplicity (Phase 3)

The development of the Mapping Multiplicity program draws on the extensive research conducted and presented in this thesis. Themes and qualities that emerged in the first two phases of mapping (as shown here) informed different parts and features needed to be mapped and visualized by the program.

Mapping Multiplicity attempts to bring socio-cultural aspects into the mapping of (in)justice, which allows looking at the research gap from different angles and provides situated knowledge needed for everyday decision-making, thereby enabling designers, planners and decision-makers to articulate a potential local solution backed up by thorough research.

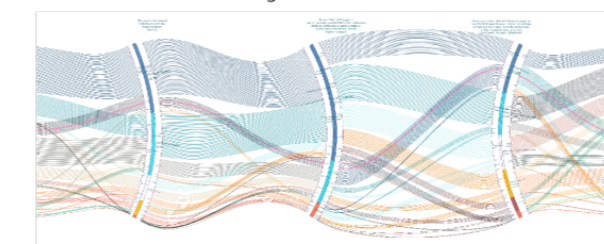
Each of the physical qualities is represented by one or more visualization. However, the subjective responses and opinions toward these physical qualities are represented by the strata and assemblages (shown by same colour but dashed lines in this visualization).

Deligny's tracings of autistic children, aaa's relational maps of communities, groups, devices, and places as well as Lombardi and Bureau d'Etudes' power lines that expose the multifaceted relations among political, economic and social forces all demonstrate how the notion of line and relationality, as theorized by Deleuze and Guattari, can be used for the mapping of multi-layer, complex or even heterogeneous aspects. Thus, this notion inspired the use of lines as a basis to propose the Mapping Multiplicity to show relations among qualities.

Notion of Rhizome & Line:
 -Deleuze & Guattari
 -Lombardi
 -Deligny
 -Petrescu (aaa)

Second version (v2)

Most of the changes in V2 are behind the scene, including:
 - The code was simplified which means increased computation speed.
 - The possibility of representing multiple relations was added: While V1 shows the relation between only 2 strata at a time, in V2 the user can choose to visualize relations among as many strata/qualities they desire and the program will represent them automatically.
 - The relational analysis was added in V2, which represents relations between different qualities and provides users with the possibility to sort the strata from the strongest relations to the weakest.



Program's visualizations

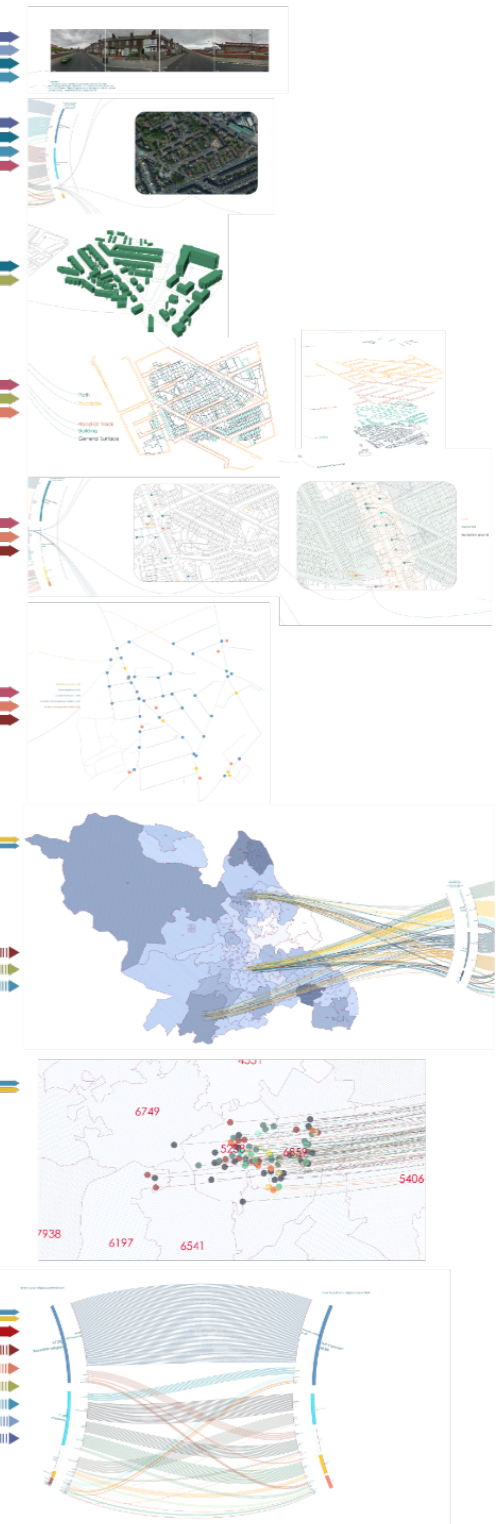


Figure 5-14 Work flow and relations of phases

6 A tool for Mapping Multiplicity of (in)justice

This chapter puts forward an interactive mapping program called 'Mapping Multiplicity'. This mapping is proposed building on insights gathered from previous phases of mapping and other practices and concepts (discussed in Chapters 4 & 5). But it also adds to them through developing a tool that can expand the application of these concepts, enabling the mapping of the multiplicity of qualities that influence inhabitants' experience of injustice and therefore attempts to address the question "*What kind of tool can facilitate the mapping of the qualities of (in)justice in the wider context of the city?*"

The Mapping Multiplicity program functions in different scales and addresses different spaces, i.e. political, social and physical. The topics discussed in earlier chapters, such as individuality, subjectivity, multiplicity, heterogeneity, relationality, recognition and situatedness, are embedded in the development of the mapping method in an attempt to represent the space of (in)justice. The practice of mapping becomes a way of uncovering relations and differences in experience as well as exploring potentialities.

In this chapter I will first expand on some of the precedents, concepts and insights that were gathered in previous chapters and used as the basis to propose and develop the Mapping Multiplicity program. Then I will explain different parts and features of the developed program. This section is followed by an example to demonstrate how the relational analysis of Mapping Multiplicity functions by using the data gathered through conducting a survey in the three case study areas. The chapter concludes by reflecting on the mapping program, its differences with some of the quantitative methods, how it can address some of the gaps in practice and research and outlining the wider implications of the Mapping Multiplicity, including its potential challenges and limitations envisaged in this process.

6.1 Creating a new tool for representing/mapping multiplicities

The mapping program presented in this chapter draws on the extensive research conducted and presented in this thesis. Insights gathered in previous phases of mapping, precedents and conceptual frameworks discussed in earlier chapters were all considered in the development of the Mapping Multiplicity program with the aim to expand the mapping of inhabitants' experiences of (in)justice in the wider context. Here I discuss some of these aspects briefly.

To create an overarching mapping of (in)justice, the overall methodological approach proposed in this thesis covers the viewpoint from a personal, one-on-one, approach to the more collective and top-down view on the issue of (in)justice. As explained in Chapters 2 & 4, for the most part, conventional mapping and data collections focus on the mapping and analysis of the distributive aspects of injustice (inequality) in the city, concentrating on quantitative aspects of distribution of goods, income, spaces and infrastructure, while recognition aspects, which are mostly explored and understood through qualitative methods, are neglected.

The themes and qualities that emerged in the first two phases of mapping showed that the issue of (in)justice is not fixed to distributive and economic factors but is multilevel and interdisciplinary. These mapping experiments not only confirmed the poststructuralist views of Young and Fraser in that (in)justice is the outcome of both maldistribution and misrecognition¹ but also complement them by providing an extended list of qualities that are more situated in the local context and should be considered in mapping and addressing (in)justice in the city.

Accordingly, the mapping program includes different parts and features which represent the political-economic, social and spatial milieu of inhabitants and the collectives that are created based on their similarities and differences. Figure 5-14 illustrates relations between the different phases and how they contributed to development of Mapping Multiplicity. As presented in Chapter 5, each of these themes include a number of interlinked qualities, and individuals are mapped through all these diverse and sometimes heterogeneous qualities. By recognising diversity of social values and the different ways in which inhabitants' experience (in)justice this mapping complements the distributive approach, which only views (in)justice through individuals' economic position and fails to recognise the diverse ways in which people with different backgrounds experience (in)justice.

Moreover, these explored themes and qualities were used as the basis to prepare a questionnaire, with the aim to further broaden the mapping, a copy of which is provided in Appendix VI. The survey was carried out in three case study areas and produced a comprehensive depository of data that was used for the Mapping Multiplicity program. In total 208 individuals participated in the questionnaire of which 201 were admissible.

Bringing together different angles of political-economic, social, socio-spatial and physical aspects² and representing the multiplicity and complexity of the relations between these qualities of (in)justice in a traditional architectural representation - that is familiar for architects and urban designers – is what the program attempted to address. Technological means and computing methods are proposed as possible solutions to create such a mapping.

The Mapping Multiplicity program attempts to avoid the flattening and reductions that often occur when using such technological means, particularly in quantitative methods that are used in measuring and addressing inequalities (predominantly used in the distributive approach).

The distributive approaches attempt to address (in)justice through economic means by measuring and analysing the distribution of wealth. The (in)justice that they represent shows the quantitative difference of how much/many (multiple of one) of commodities are unequally distributed. The Mapping Multiplicity approach complements this quantitative approach by representing qualitative differences of (in)justice. The qualitative differences are difference among the multiples or, in short, multiplicities. This is not the difference in scale but the difference in intensity, force, experience or relations. In order to represent difference in quality or experience, the mapping should recognise participants' subjectivities and individuality.

¹ For further information please see Chapter 2

² Each one of these aspects includes a number of qualities that were defined in Chapter 5. Here the mapping tries to map and represent these qualities in a wider scale.

The mapping program achieves this, as I will explain in later sections, by illustrating each individual, community and their relations. By doing so, Mapping Multiplicity can be used to complement quantitative methods (e.g. ANOVA), which miss the individuality of participants in their aggregated data³ while having a tendency to omit minorities and marginalised groups that are often underrepresented or represented as insignificant in their analysis.⁴

Mapping Multiplicity acknowledges the diversity of political-economic conditions and socio-cultural values and recognises the different ways in which people with these different backgrounds experience (in)justice. It does so by engaging people's local knowledge and their experience of injustice. By doing so it differs from and can complement GIS and PPGIS methods. First of all, unlike these methods, it grants more legitimacy to local knowledge and subjectivity of inhabitants than quantitative spatial knowledge. PPGIS has been criticised for being a tool that justifies decisions with public support rather than being a liberating mapmaking process that truly incorporates people's knowledge in the process⁵. This problem is innate for GIS programs because of the quantitative basis of the program. The data gathered based on experiences and knowledge of individuals involved in the process are often contradictory and vary based on their class, ethnicity, gender and social values. This heterogeneity and multiplicity of knowledge produced through participants' everyday experiences are too ambiguous for purely quantitative input and can create contradictions in the overall processes envisaged for PPGIS and are therefore often difficult to realize in practice (because they cannot reach generalizability, which requires repeatability of data and a very little ingroup variance).⁶

Although engaging communities and residents' opinion might be part of the process of PPGIS, they are subordinate to the quality of data gathered and the representation of the spatial data. The maps and analyses that are produced through PPGIS are subjected to the same standards as quantitative data collection for GIS. This process is only efficient when groups are well distributed and homogenised in a controlled environment, a condition that is very difficult or nearly impossible to create in the city environment where diversity of conditions and values exist, particularly in relation to a multifaceted subject like (in)justice. And the attempt to create homogenous groups often results in a disregard for minorities and negligence of marginalised and silent groups as mentioned⁷, something I will further discuss in a later section.

As mentioned, using technological and computational means is proposed as a way to respond to the complexity and multiplicity of the data gathered, however, in order to avoid the reductions and flattenings that sometimes occur using technological means and for Mapping Multiplicity to

³ Unlike quantitative analysis, there is no need to translate textual data into abstract, representative numbers (e.g. 0=male, 1=female) or to re-interpret numeric results which do not represent the subjects' individuality.

⁴ Since they are developed for physical and economic science they are subjected to the same quantitative standards of collecting measured data, e.g. homogenous groups, normalised distribution and controlled environment. However, these methods and conditions are extremely difficult or even near to impossible to apply in social sciences, particularly in relation to issues such as (in)justice, where a multiplicity of factors is involved and a diversity of conditions and values exist. This often leads to omission of minorities and silent groups which are rendered as insignificant in the overall analysis.

Ellen R. Girden, *ANOVA: Repeated Measures*, Sage University Papers. Quantitative Applications in the Social Sciences, no. 07-084 (Newbury Park, Calif: Sage Publications, 1992), 3-6; 'What Are the Limitations of ANOVA in SPSS? | Techwalla.Com', Techwalla, accessed 26 September 2017, <https://www.techwalla.com/articles/what-are-the-limitations-of-anova-in-spss>.

⁵ John Pickles, ed., *Ground Truth: The Social Implications of Geographic Information Systems*, Mappings (New York: Guilford Press, 1995), 25; Denis Wood, John Fels, and John Krygier, *Rethinking the Power of Maps* (New York: Guilford Press, 2010), 160.

⁶ Sarah Elwood, 'Negotiating Knowledge Production: The Everyday Inclusions, Exclusions, and Contradictions of Participatory GIS Research*', *The Professional Geographer* 58, no. 2 (May 2006): 197-208, <https://doi.org/10.1111/j.1467-9272.2006.00526.x>.

⁷ Greg Brown and Marketta Kyttä, 'Key Issues and Research Priorities for Public Participation GIS (PPGIS): A Synthesis Based on Empirical Research', *Applied Geography* 46 (January 2014): 126-125, <https://doi.org/10.1016/j.apgeog.2013.11.004>.

accommodate the representation of this multiplicity of qualities, heterogeneity and complexity that emerges from engaging local knowledge and subjectivity of participants, the notion of Rhizome is used as the conceptual basis of the program. As was extensively discussed and shown through multiple precedents in Chapter 4, Deleuze and Guattari's notion of rhizome, relationality and line offers a useful approach to map the multiplicity of heterogeneous aspects and fields.

On the basis of this concept the Mapping Multiplicity program is composed of various lines that constitute assemblages of different parts and pieces that have the capability to represent relations between various, even heterogeneous, qualities, fields and disciplines. In doing so, (unlike quantitative counter parts, e.g. GIS, PPGIS) it can incorporate diverse qualities and aspects that emerge from engaging people's local knowledge in order to represent different ways (in)justice is experienced by inhabitants based on their class, ethnicities, race, gender and so on.

Deleuze and Guattari use 'line' as the basis of their thinking to explicate their metaphoric cartography of the social milieu. To explain their argument, they refer to the use of line and tracing in a study of autistic children practiced by Deligny. Deligny used line to represent children and, by drawing their line of movement in the space on paper, he formulated a mapping which consisted of traces of their walks, activities, events, gestures and emotions. He states that these lines are "*an affair of cartography. They compose us, as they compose our map. They transform themselves and may even cross over into one another.*"⁸ Deligny's tracing of autistic children, which took place on the micro-level of everyday life, represents relations of space, objects and children whilst at the same time inventing a way to communicate with those who lack conventional communication methods (language). Another example provided on the meso-level was aaa's relational mapping of communities, devices and places. Doina Petrescu (co-founder of aaa) applies a direct interpretation of the Deleuze and Guattari's metaphoric notion of the line. She uses these lines to illustrate the relations among objects, mobile and tactical devices, people, local groups, space and changes in the roles and activities of the ECObox members over time.⁹ In relation to use of line Petrescu remarks:

*"The 'line' constitutes an abstract and complex enough metaphor to map the entire social field in terms of affects, politics, desire, power to map the way life always proceeds at several rhythms and at several speeds'. 'As individuals and groups, we are made of lines which are very diverse in nature – we have as many entangled lines as a hand. What we call with different names – schizoanalysis, micro-politics, pragmatics, diagrammatics, rhizomatics, cartography – is nothing else but the result of the study of the lines that we are.'"*¹⁰

Lombardi and Bureau d'Etudes' drawings were further examples provided that revealed on the macro-level the relations between political, social and economic forces. Lombardi uses lines drawn by pencil or ink on paper, to make sense of a mass of data he gathered, through which he later discovered the aesthetic power of line and relational analysis to represent relations among trading companies, financial institutions, international banks and governing organisation. All these examples¹¹ demonstrate how the notion of line and relationality, as theorized by Deleuze and

⁸ Gilles Deleuze and Félix Guattari, *A Thousand Plateaus Capitalism and Schizophrenia*, trans. Brian Massumi (London: Continuum, 2008), 203.

⁹ Doina Petrescu, 'Relationscapes: Mapping Agencies of Relational Practice in Architecture', *City, Culture and Society* 3, no. 2 (June 2012): 135–40, <https://doi.org/10.1016/j.ccs.2012.06.011>.

¹⁰ Doina Petrescu, 'The Indeterminate Mapping of the Common', *Field: A Free Journal of Architecture* 1 (2007): 90; Gilles Deleuze, *On the Line*. (Autonomea, 1983), 69–72.

¹¹ All these examples were extensively discussed and presented previously, for further info please see Chapter 4.

Guattari, can offer a mapping of multi-layer, complex or even heterogeneous aspects. While this approach can be applied to map the entirety of the social field, it becomes relevant in the context of mapping the multiplicity of qualities that influence inhabitants' experiences of (in)justice. Building upon the concept of lines and relations, in creating the mapping program I go beyond these examples (which only use line) by expanding it to all notions of *rhizome*.

As explained when discussing the conceptual basis of Mapping Multiplicity (in Chapter 4), in creating my mapping, notions such as lines, assemblages, strata and bodies are beneficial for a program that can map the multiplicity of qualities. Although Deleuze and Guattari use these terms metaphorically to elucidate their cartography of social space, I refer to these notions in a more literal way, thus to explain different parts of the map that function similarly to the concept. I will further explain these different parts of the mapping program in the next section.

In creating the Mapping Multiplicity program, I have attempted to practice the aspects mentioned above such as: incorporating the qualities of (in)justice (explored in previous phases) in the mapping; avoiding losing the personal quality of inhabitants, i.e. a method of mapping that privileges subjectivities and recognises diversity of social values and different ways inhabitants experience the world; and using technological means as a way to respond to the complexity and multiplicity of the data gathered based on these various qualities. In bridging these different fields, the mapping program is operating within a new sphere and thus becomes experimental.

In general, the Mapping Multiplicity program was developed while having in mind the possibility to be transferable to different research, design and planning purposes since it can represent relations between multiplicity of qualities. These qualities can take various political, social or spatial properties. For this research, these qualities were defined based on the findings of the first two phases, i.e. the qualities stand for different aspects of experiences of (in)justice. By defining and applying the qualities in this way, Mapping Multiplicity is being subjected to represent relations among these experiences of (in)justice in the city.

Conventional urban development plans or regeneration maps represent stages, zones, opportunities and limitations. These mappings or plans, for the most part, indicate an administrative procedure that describes a developmental course of action or a formal documentation of plans that fails to grasp multiplicity of urban conditions and results in a flattened representation of a pre-determined phase in the process of development. In contrast to this, I wanted to develop Mapping Multiplicity in a way that it could fit into the conventional procedures and complement them by assisting designers in mapping and analysing not just the physical context but also the related social context of the city inhabitants and the (un)just conditions they endure.

Here mapping is considered as a critical practice to conduct research on social and cultural together with physical needs that also questions the use-value of city space rather than being used as a way to legitimise development (like PPGIS). This practice should become part of design, planning and decision-making processes, to challenge existing power relations between city developers/planners and residents, and question single-perspective approaches in creating policies and plans. It attempts to bring different qualities (physical, social and political) into the process, one or the other of which are often missed in conventional methods but are nevertheless important for the recognition, exploration and later addressing injustice in the city. The Mapping Multiplicity program therefore is

proposed as a potential tool, used within just urbanism in particular, but also more widely within a participatory and alternative design and planning procedure.

6.1.1 The Mapping Multiplicity platform

The Mapping Multiplicity was developed as an opensource plug-in program which can later be archived and accessed online.¹² The visual programming language that was used for the coding of this mapping is *Grasshopper*¹³, which is a programming plugin of *Rhinoceros* (Rhino).¹⁴ Not only has Rhino been widely-used in recent years but also the 3D environment that the software offers can provide a familiar platform to represent spatial data for architects and designers when interacting and working with the mapping tools.

Being opensource has a number of benefits: First of all, it enables connecting the analysis and outcomes of this mapping to other programs (examples of which are provided later), thereby opening up the mapping to include other data analyses and interpretations. Second, the program can be provided for free to grassroot groups, designers and planners who can benefit from it whilst encouraging them to take into account the various aspects of (in)justice in the everyday designing and planning processes and further expand the attempts to address (in)justice. Third, these groups and design offices can also contribute to the mapping, on the one hand by creating a larger data set and contributing to the overall project, thus creating a larger map of (in)justice, and on the other hand, by tweaking the program, adding and refining various parts of the mapping, the program can be improved or be more adaptable for diverse conditions and various designing and planning needs. Thus, in this way the mapping can evolve and grow horizontally.

The overall visual platform is illustrated in Figure 6-1. At the first glance the map might seem complex because of the amount of details it entails, whilst at the same time it provides familiar visualisation of spatial data presented by urban plans and lines connecting these different parts (bodies) of the



Figure 6-1 Basic view of the mapping platform

¹² The mapping program file can be stored and accessed online and after data sheets are inserted into the program, they will be promptly translated into visualisations and the analysis can be conducted. I will upload the program only after final submission of the PhD.

¹³ Grasshopper is a visual programming language and environment developed by David Rutten at Robert McNeel & Associates as a plugin for *Rhinoceros3d*.

¹⁴ *Rhinoceros* (often abbreviated Rhino, or Rhino3D) is a 3D computer graphics and computer-aided design (CAD) application software developed by Robert McNeel & Associates. For more information see 'Rhino 6 for Windows', accessed 12 September 2017, <https://www.rhino3d.com/>.

map. The seemingly endless repetition of looping lines and links captivate the eye into following them into various qualities, bodies and details. Since it is possible to zoom within the program one can zoom in to discover more details or zoom out to see the entire map and the multiplicity of relations it represents. As Lévi-Strauss stated, “to understand a real object in its totality, we always tend to work from its parts. The resistance it offers us is overcome by dividing it. Reduction in scale reverses this situation. Being smaller, the object as a whole seems less formidable.”¹⁵ Accordingly, being able to see the entire map in its complexity in a single gaze through reduction in scale makes it *less formidable*, and afterwards it becomes easier to use and explore all the details and information it has to offer.

I have developed the program in such way that the whole visualisation is produced automatically. It is of course possible for the users to choose the information to be visualised and to reconfigure and customize the colouring, scales and shapes if desired. The use of curved lines, groups of lines and various maps and information is easily recognisable and catches the eye. In the following I will explain these various parts and bodies of the mapping program.

Lines and assemblages

As discussed previously, Deleuze and Guattari use line as a metaphor to describe what they mean by their mapping of social space. As demonstrated through different precedents, line has the power to map the entirety of the social field by representing relations in different scales and among multiple, complex or even heterogeneous aspects, fields and qualities.

I use a more literal translation of the line, meaning simply that each line represents an individual (participant in the survey). Since line (unlike point) is a dynamic element, it allows for the political, social and physical space of each individual to be represented along the length of this line and in this

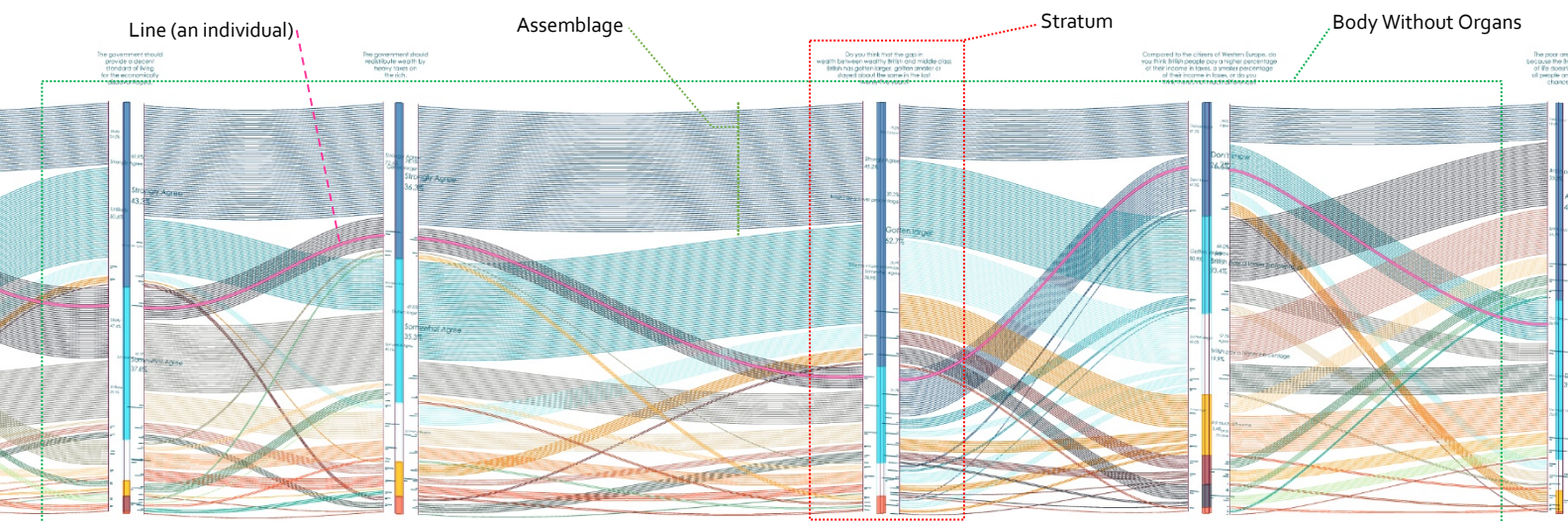


Figure 6-2 Lines, Assemblages, Strata and Body Without Organs

¹⁵ Claude Lévi-Strauss quoted in Brian Holmes, 'Counter Cartographies', in *Else/Where: Mapping: New Cartographies of Networks and Territories*; [Mapping Networks, Mapping Conversations, Mapping Territories, Mapping Mapping], ed. Janet Abrams and Peter Hall, 2. print (Minneapolis, Minn: Univ. of Minnesota Press, 2008), 23.

way dynamically map various qualities and the individual's response, opinion and perception toward these qualities. (Figure 6-2)

Lines come together to create assemblages. I borrow the word *assemblage* from Brian Massumi's translation of *agencement*¹⁶, which refers to active relations and connections existing between singularities (i.e. an assemblage is a collective of singularities). Whenever participants provide the same answer to a question they create these collectives of lines, which represent a group of people sharing a common value, response or opinion related to each quality/question.

Each line represents one person; bringing traces of all these people together creates assemblages of these lines, which consequently turn into lines of their own. These lines are constantly intersecting, crossing for a moment or following one another. Whenever there is a common perception (e.g. similar experience, perceptions or values) these lines follow the same direction with the same curvature (creating an assemblage), and consequently turn into a larger line (made of multiple lines) themselves. And whenever there is a difference, the line (individual) separates from an assemblage and joins another one, although some might belong to none. In this way the mapping illustrates both individuals and the collectives they form (depending on the values they associate themselves with).

Creating assemblages in this way and representing them as groups of lines is advantageous; it gives organisation to the presentation and it becomes possible to represent individuals and the collectives they create simultaneously. The latter allows for subjective qualities to remain visible, be recognised and not get lost as it often happens in the process of data aggregation and generalization. The view of groups/collectives/communities is beneficial for recognizing patterns of behaviours and actions as well as diversity of conditions experienced on the basis of the values that groups associate themselves with. At the same time, representing individuals enables the recognition of their subjectivity as they might share similar values or behaviours with one group in one quality but diverge in others (e.g. an individual who associates herself as Muslim in relation to the quality of religion might diverge from the rest of this assemblage when it comes to her experience of (in)justice because she prefers not to wear hijab. In this way the map avoids stereotyping and keeps individual subjectivities intact based on different qualities).

As mentioned, the themes and qualities previously explored (listed in Chapter 5) were used to create a questionnaire. Each quality was addressed with one or multiple corresponding questions/indicators. Each of these qualities/questions is depicted in the mapping through bars representing layers of assemblages created in response to the question/quality, thus creating 'strata'. A stratum, as can be seen in Figure 6-2, consists of a text on top of the bar representing the question/topic, a bar containing different assemblages (layers) and texts behind each bar showing the size and name of each assemblage (response). As illustrated in Figure 6-3, these bar charts show two sets of assemblage. The first set shows the percentage of respondents (i.e. an assemblage) that has given the same responses to the question above the bar, whilst the second set is the subset of the same assemblage showing the responses in relation to the next question/quality (strata).

For example (Figure 6-3), if the first question is "What is your religious preference? (column 82)", the bar shows that 31.8% of total respondents identify themselves as Christian. For the next question(strata) "How important is religion in your life? (column 35)" 14.1% out of the Christian

¹⁶ Deleuze and Guattari, *A Thousand Plateaus Capitalism and Schizophrenia*, 4.

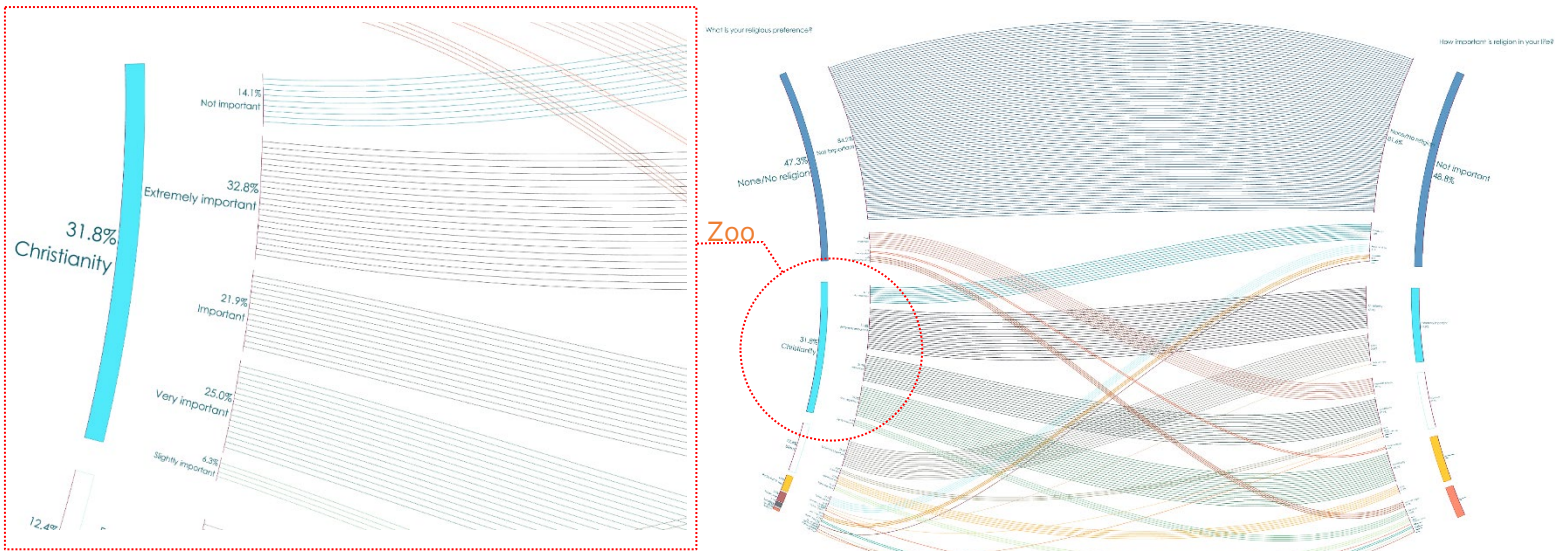


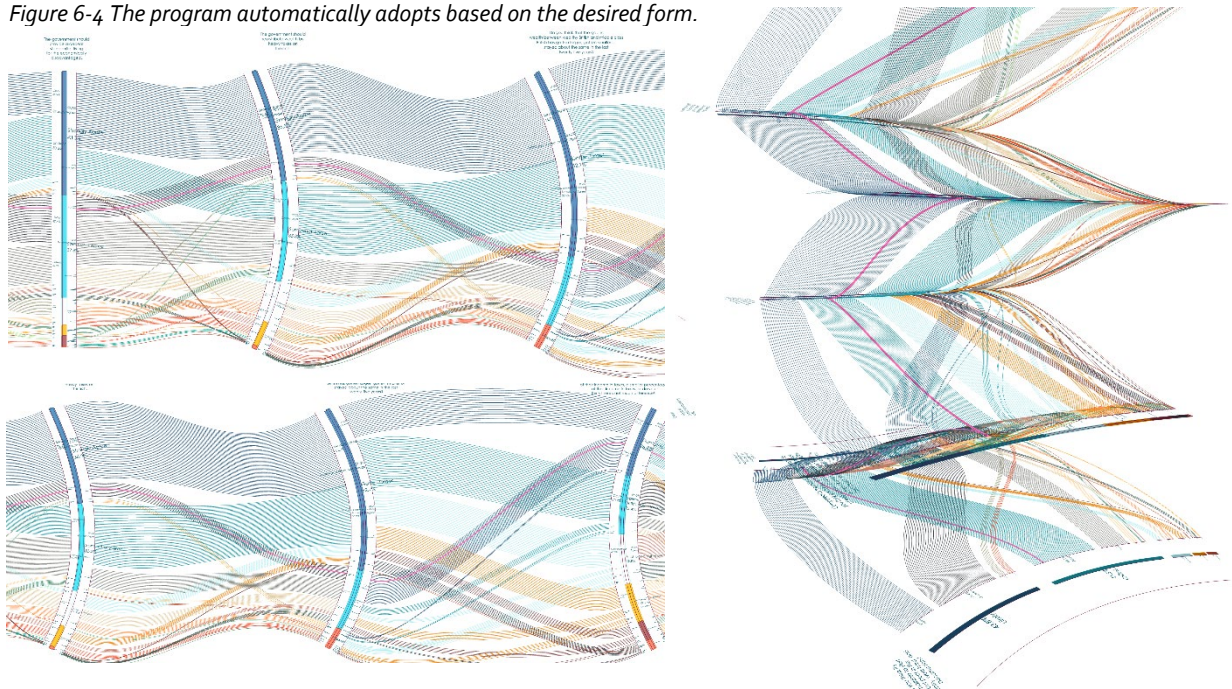
Figure 6-3 Vertical axis shows the size and type of the assemblages.

assemblage responded not important, 6.3% slightly important, 21.9% important, 25% very important and 32.8% extremely important.

The users can choose the relation between which strata/qualities they want to represent and the program promptly draws the lines (individuals) between the strata/qualities and illustrates the relations between them. The visualisations are produced automatically, however, they can be stretched, added to, cut, folded into different forms or re-shaped in all different arrangements according to the users' needs (Figure 6-4).

Each stratum (question/quality) can be connected to any other. As discussed in the conceptual framework of the map in Chapter 4, the map (like Rhizome) has *multiple entryways*, meaning that immediate connections between any of its points are possible. They can be broken at any point and be connected to others or be opened up to be connected to other analyses/programs. These lines

Figure 6-4 The program automatically adopts based on the desired form.



therefore represent relations between these different qualities of the physical, social and political, bringing them together. This possibility opens up the map rather than closing it, meaning that a variety of analyses and narrations are possible. For example, as mentioned, Lombardi subjectifies his maps to a particular order of lines and nodes, which enable him to tell a particular story (e.g. money flows from financial institutions to government bodies to represent corruption) or create a particular narration (e.g. relations between drug cartels) and for that reason he calls his maps “Narrative Structures”.¹⁷ In contrast, Mapping Multiplicity does not subjectify the maps to a particular structure or interpretation, but by being able to choose what relationships or which strata/qualities to represent through the mapping program, the users can create their own narration or analysis. By not prescribing a particular analysis or structure the program (unlike GIS) attempts to not impose a particular viewpoint but enable users to create their own.

The above application of Mapping Multiplicity (which functions similar to rhizome) is the realisation of the concept of Body without Organs (BwO), which was described in Chapter 4. Using Antonin Artaud’s term, Deleuze and Guattari describe Body without Organs as comprising of assemblages and bodies without any primary organisational principles, and thus no organs inside it.¹⁸ By doing so “*What you take away is precisely the phantasy, and significances and subjectifications as a whole.*”¹⁹ In the Mapping Multiplicity programme the strata (questions) are not subjugated to any particular order or structural organisation. Not having or imposing organisation means that the program can accommodate a diversity or multiplicity of analyses, narrations or interpretations. Thus, since the map is not subjectified to a particular structure, it is possible to create our own, tailored to particular groups or individuals (thus recognising their individuality and subjectivity and not disregarding minorities or smaller groups). I will further discuss the relational analysis used in this program by providing an example in the following section.

The assemblages are illustrated automatically with different colours. Each line within an assemblage receives the same colour, which is customizable if needed. For example, the colouring based on one stratum (one quality/question) can show the relation between the chosen stratum that the colour is based on and every other stratum as shown in Figure 6-5. In this example the assemblages are chosen based on the participants’ neighbourhood. Three assemblages are illustrated with the colours yellow, green and blue, which respectively show the residents of Highfield, Parson Cross and Dore. And by extending these lines with the same colour to the rest of the qualities, the map represents the relations between residents’ neighbourhoods and other qualities/questions/factors.

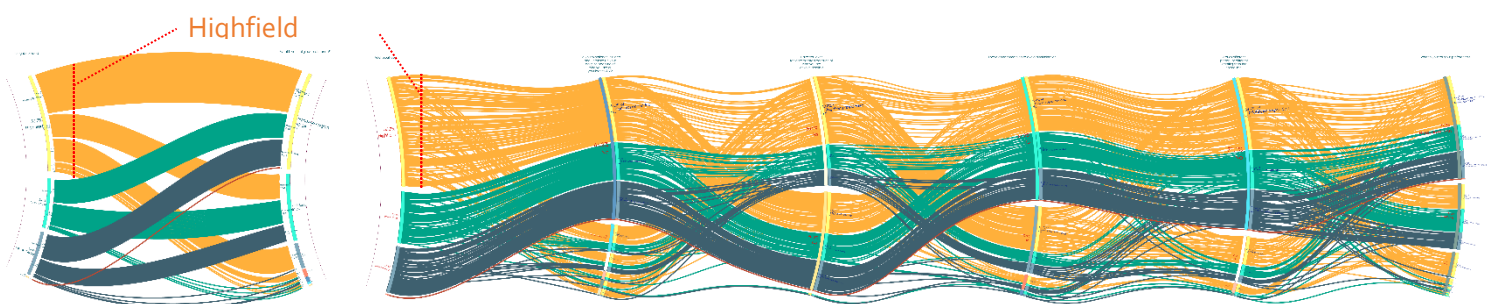


Figure 6-5 Coloured based on one strata (neighbourhood).

¹⁷ For further information please see Chapter 4 Mapping Multiplicities.

¹⁸ Deleuze and Guattari, *A Thousand Plateaus Capitalism and Schizophrenia*, 150.

¹⁹ Deleuze and Guattari, 151.

The size of the assemblage depends on the number of qualities chosen to create an assemblage. The assemblages can be selected based on one or more quality. Naturally, if more qualities are chosen for an assemblage, the number of assemblages increases while the size of them reduces (since it is more particular to a certain group) and accordingly more colours are introduced in the overall illustration. Following the previous example, a second quality of religion was added to the neighbourhood assemblages. As can be seen in Figure 6-6, the two qualities (strata) of neighbourhood and religion are used to visualise the assemblages. For instance, in this example, the assemblage coloured in yellow shows residents who are Muslim and live in Highfield (Sharrow). Thus, we can follow this assemblage and its members along different strata by tracking the yellow colour. We can see for example that 68% of Muslims in Highfield responded that they are experiencing injustice in their daily life because of their identity.

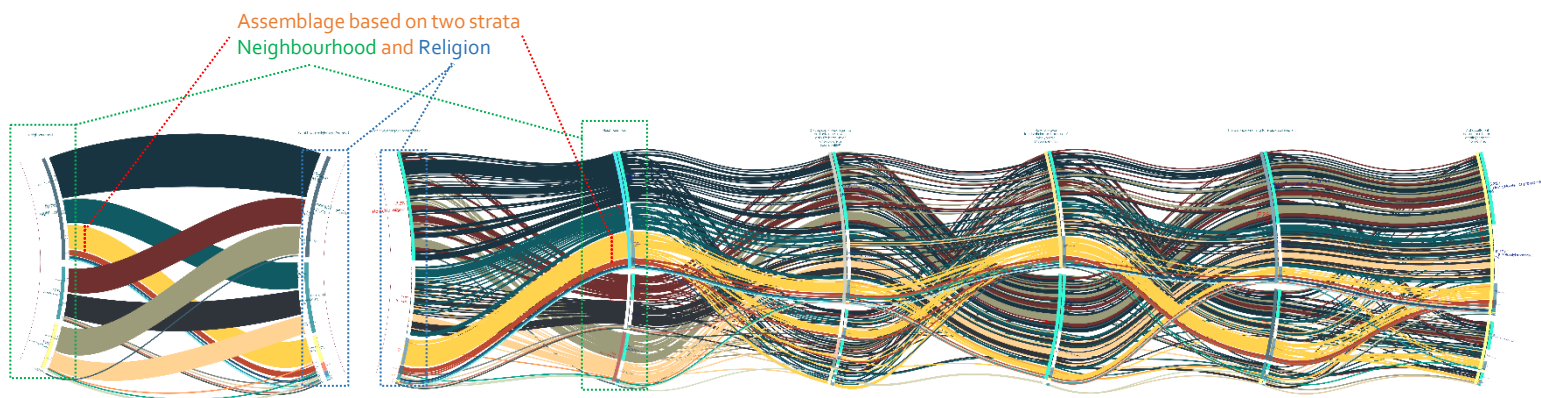


Figure 6-6 Coloured based on two strata (neighbourhood and religion)

Deligny's lines are tracings of the movements and behaviours but, as Deleuze argues, it is the analysis of lines that creates a map. He distinguishes between different lines of behaviour as "lines of drift" or "customary lines" that come together in a *plane of consistency* and allow him to map the relationship between *the psyche, the physical and everyday life*.²⁰ What distinguishes a map from tracing for Deleuze and Guattari is that it "does not reproduce an unconscious closed in upon itself; It fosters connections between fields [...] A map has multiple entryways, as opposed to the tracing, which always comes back 'to the same.'" That is not to say tracing should be avoided as Deleuze and Guattari point out: "It is a question of method: the tracing should always be put back on the map."²¹

My maps can also be labelled as traces but unlike Deligny's they are not traces of the movement in space but instead traces of perception created by (in)justice in the city that are left on the mind of the residents and with these lines they were put back on the map. The common that is mapped here is the common body of values and perceptions, although they might not necessarily share the same physical space (unlike Deligny's common body), but by tracing these common values back to where they take place the map provides a spatial context for them.

What is eventually mapped are different subjectivities and different ways of living, perceiving and experiencing (in)justice, although they might (or might not) happen in proximity of each other. By tracing the similarities and differences in values and experiences back to the spatial context (to the place) where they occur, perhaps we can start to fully understand the space of (in)justice; space not

²⁰ Petrescu, 'The Indeterminate Mapping of the Common', 90.

²¹ Deleuze and Guattari, *A Thousand Plateaus Capitalism and Schizophrenia*, 12–13.

just as a Cartesian space of the city but also as social space where a diversity of experiences takes place even momentarily, sometimes without having a physical or measurable currency and without leaving their trace in quantitative metrics.

As mentioned, the map *fosters connections between fields*. The (un)just space was mapped as relational, meaning that the connections between spaces -whether physical, social or political- show up as intensities and forces (representing qualitative differences). As explained above, political and social qualities are represented through strata and comprising assemblages, however to represent the spatial and physical qualities there is a need for other modes of representation that are illustrated through different *bodies* (Figure 6-7).

That the map has multiple entryways means that it brings into its body various parts and pieces containing diverse themes and qualities with the aim to create multiple ways of apprehending (in)justice in the city.²² It can be broken off at any of its points and be connect to the other. These various fields are heterogeneous, complex and cannot be presented in the same manner; what brings them together to represent the multiplicity of relations through the eye of the map is the line. A line that changes its quality form one body to the other, from being an outline or being purely geometrical, to having no outline at all. It can join an assemblage with other lines or depart from it. A line that passes between things, connects them, takes different roles, becomes a location or a social space, takes the form of a building block or street or becomes an opinion, a protest, a suggestion representing different values and experience. In short, it is a line in mutation, or as Deleuze calls it an 'abstract line'.²³

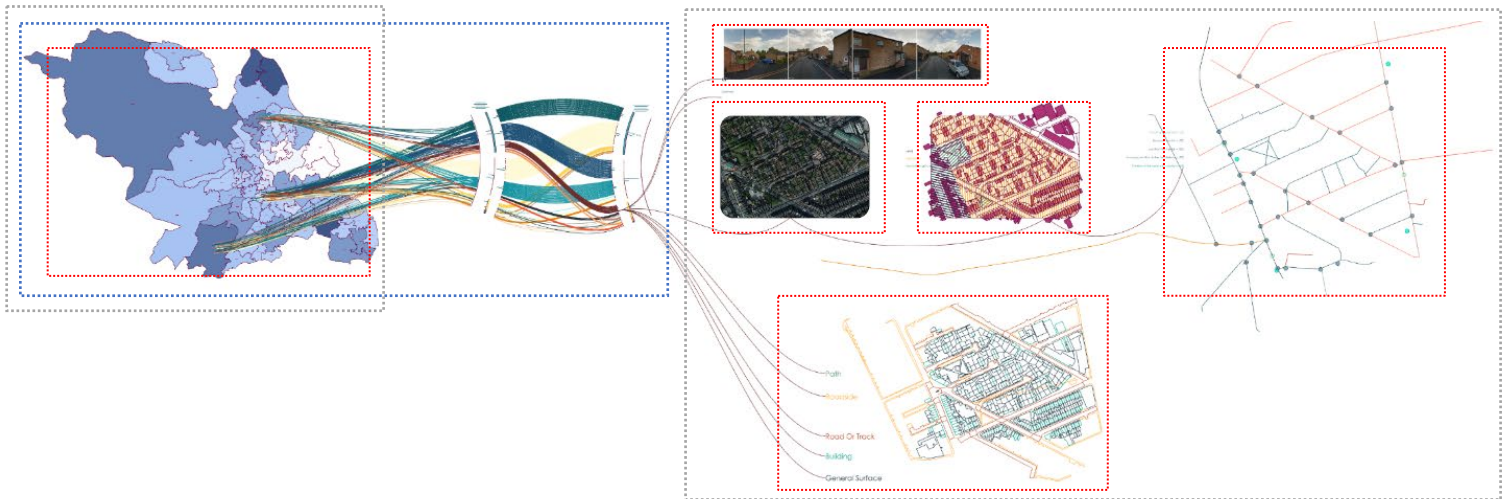


Figure 6-7 Spatial and physical space shown through a green frame, social and political aspects shown with a blue frame. Red squares show various spatial bodies

²² Qualities (attributes) that has been explored in Chapter 5.

²³ This was further discussed in Chapter 4, Mapping Multiplicity Conceptual framework. You can also see Gilles Deleuze and David Lapoujade, *Two Regimes of Madness: Texts and Interviews, 1975-1995*, Semiotext(E) Foreign Agents Series (New York : Cambridge, Mass: Semiotext(E); Distributed by MIT Press, 2007), 178.

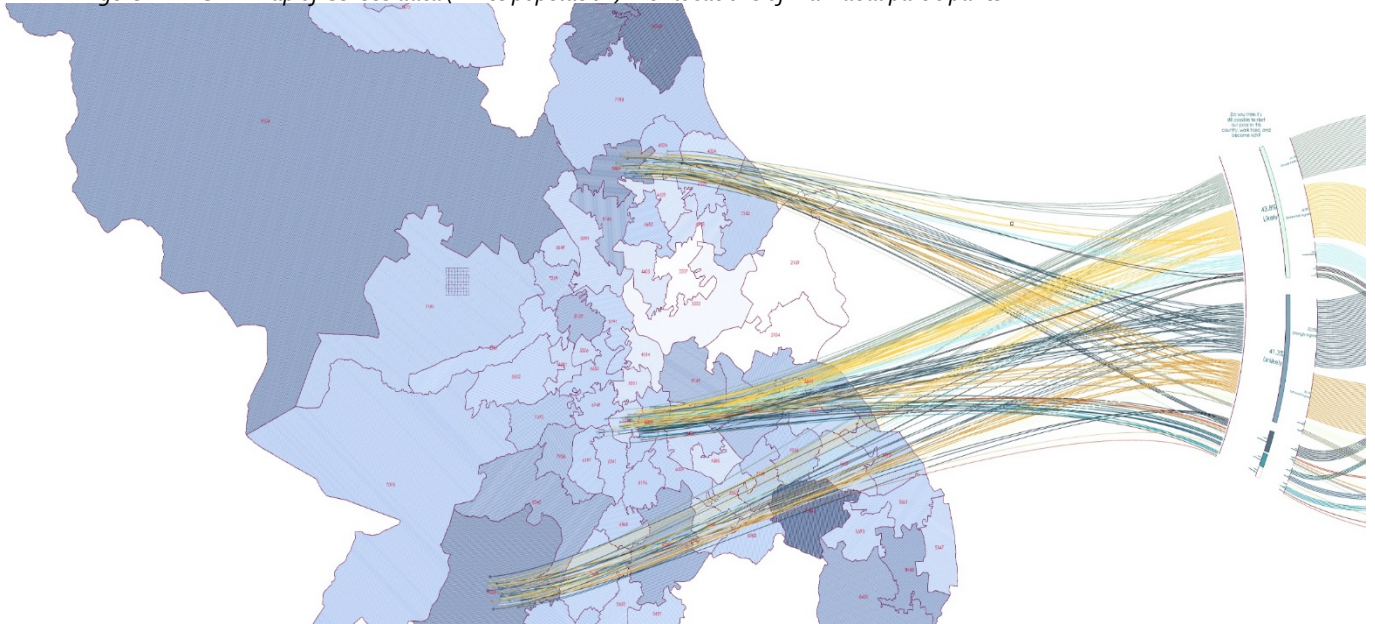
Bodies

As discussed above, lines drawn between different parts of the map show relations between various qualities. However, not all qualities and containing information can be represented in the same manner. Comments, aggregated data, urban plans and images or spatial and physical context in general, is illustrated through different parts and graphical presentations (Figure 6-7) that on the whole are called bodies.

In order to have the information as a whole in front of the user, these maps are presented in multiple scales. On the left side a city scale map, representing output areas²⁴ (of Sheffield) which can project various aggregated and census data²⁵, is provided. On the right side, the maps scale up to the street scale so as to represent the individual urban physical context. What can be seen is that lines move throughout the entirety of the platform from small to large scale to represent relations.

To represent the relations, individuals need to be located within these maps. Depending on the frequency or accuracy needed for the mapping there are various positioning methods that can be used in the map. As discussed previously in Chapter 4, GPS²⁶ has both positive and negative applications. On the one hand, it allows the individual to locate him/herself with relative accuracy in any place at all times, through which it becomes possible to provide users with localized information (e.g. navigation). On the other hand, it can expose the user to surveillance and raise privacy concerns. Holmes argues that the advantage of GPS is its capability to enable an “*inscription of the individual, a geodetic tracery of individual difference*”.²⁷ In this way it is possible to once again put the trace of

Figure 6-8 MSOA Map of Census data (white population) with locations of individual participants.



²⁴ Output areas are created to represent census data. The maps can be customized to different level of detail from lower to middle super output areas. “They were designed to have similar population sizes and be as socially homogenous as possible based on tenure of household and dwelling type.” For more info please see O. N. S. Geography, ‘Output Area (OA)’, Text, Office for National Statistics, 8 December 2011, <http://webarchive.nationalarchives.gov.uk/20160107193025/http://www.ons.gov.uk/ons/guide-method/geography/beginner-s-guide/census/output-area-oas-/index.html>. ‘Census Geography - Office for National Statistics’, accessed 3 April 2017, <https://www.ons.gov.uk/methodology/geography/ukgeographies/censusgeography#super-output-area-soa>.

²⁵ ‘Census Aggregate Data’, accessed 4 April 2017, <https://census.ukdataservice.ac.uk/get-data/aggregate-data>.

²⁶ Global Positioning System ‘GPS.Gov: GPS Overview’, accessed 30 March 2017, <http://www.gps.gov/systems/gps/>.

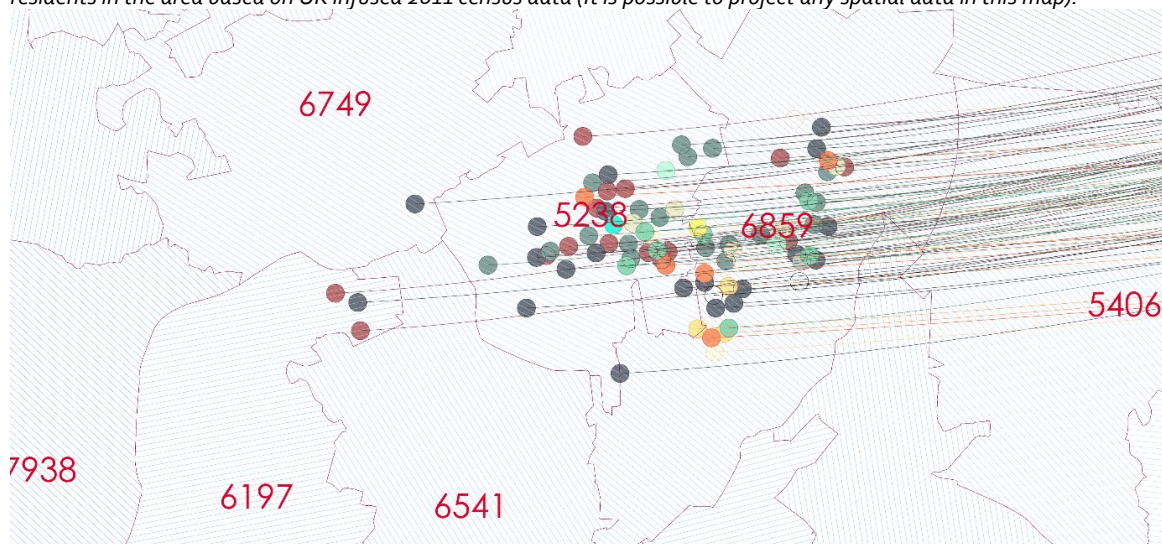
²⁷ ‘Brian Holmes - Drifting Through the Grid | Surveillance | Global Positioning System’, Scribd, accessed 7 December 2016, <https://www.scribd.com/document/57872191/Brian-Holmes-Drifting-Through-the-Grid>.

individual differences and experiences on the map without losing its sense and subjectivity in the hyper-rationalist grid. Examples of such an approach were presented in the beautiful work of the 'RealTime' project of Waag Society, or Nikita Barsukov or Nathan Yau, who, by superimposing GPS data from numerous users, represent everything from private routes of individuals to more busy city nodes or ideal tracks for running.²⁸ These maps are a 'diary of traces' that represent a very subjective and individual map that each citizen creates by their movements through the city. Moreover, by sharing and comparing walking, running, cycling or other activities with others²⁹ the users of these technologies create a virtual common place.

In the Mapping Multiplicity program there is a capacity to add GPS data of individuals. However, for this mapping it was not essential to trace individuals in real time, which as just mentioned, can also expose the person to surveillance and raise ethical issues – even though by increasing the frequency and accuracy of the input data (via GPS) the resulted information can become more accurate; for example, participants can report an issue and accurately pinpoint its location. What was needed was to put residents into their spatial context. Therefore, to comprehend an inhabitants' social and political space and his/ her relation to it, it was enough to locate individuals' approximate household or street in the city. For this purpose, I have asked for neighbourhood name, postcode and offered the option to provide the full address. Thus, the accuracy of the location is, for the most part, the scale of the postcode.³⁰

These locations are put back on the maps in the scale of the entire city or city output areas MSOA (middle super output areas), providing the related aggregated data as presented in Figure 6-8. Furthermore, the participants' location was used to represent the urban context, thus enabling a

Figure 6-9 Location of individual participants in the Highfield neighbourhood. The numbers show the population of white residents in the area based on UK infused 2011 census data (It is possible to project any spatial data in this map).



²⁸ Waag Society, 'Waag Society', InteractiveResource, Waag Society, accessed 7 December 2016, <https://waag.org/en/project/amsterdam-realtime>; Nathan Yau, 'Where People Run in Major Cities', *FlowingData* (blog), 5 February 2014, <http://flowingdata.com/2014/02/05/where-people-run/>; 'Maps of Running Routes in European Cities. — A Blog of Nikita Barsukov', accessed 31 March 2016, <http://barsukov.net/visualisation/2014/07/25/endomondo/>.

²⁹ These communities and options are provided by websites and software applications such as 'Strava | Run and Cycling Tracking on the Social Network for Athletes', accessed 31 March 2017, <https://www.strava.com/>; 'Runtastic: Running, Cycling & Fitness GPS Tracker', accessed 31 March 2017, <https://www.runtastic.com/>.

³⁰ If the participant provided the full address then it is the exact position of the house otherwise it is the scale of the street or post code: "Each postcode covers an average of about 15 properties, however in reality it can be anywhere between 1 and 100." For further info please see 'Brief Guide To UK Postcodes', accessed 2 April 2017, <http://www.bph-postcodes.co.uk/guidetopc.cgi>.

more situated study of residents, which is illustrated on the right side of the map (as can be seen in Figure 6-7).³¹ Therefore, by moving from left to right, one moves from a small-scale map of aggregated data to a large-scale of individual context. In this way users can have both scales simultaneously in view and see the individual exclusively whilst tracing him/her in the assemblage with others. MSOA data is visualized with UK census data³² and can be also altered with LSOA and OA for further accuracy or detailed data. Zooming into the MSOA map, Figure 6-g illustrates the position of participants in the Highfield (Sharrow) neighbourhood based on provided postcodes. Each circle colour is based on their assemblage colour to associate their responses with the map. Numbers and hatch colours within each region show the population of the particular aggregated data (in this example white population in MSOA regions). This information can be changed and can project any other aggregate or census data that is required for the analysis.

To provide situated information for the resident's physical space there are different maps and information that were added to the map. The first and most conventional one is the urban map (Ordnance Survey (OS) Master Map Topography) of the participant's household/street, including one hectare of its urban context.³³ This map allows for measurable data and quantifiable aspects of physical environment. This map is divided into different layers for a more flexible selection of different features such as: buildings, structures, water, roads, tracks and paths, rail, land, height and terrain. These features can be explored in various ways, for instance as plan or exploded axonometric projection (Figure 6-10), that provide a consistent view of the environment whilst allowing for different layers to be studied separately as well as viewing the relationship, order or assembly of various layers of the physical environment. This is particularly useful for the analysis of physical space and urban layout such as block size, building size, pavement, green space, etc.

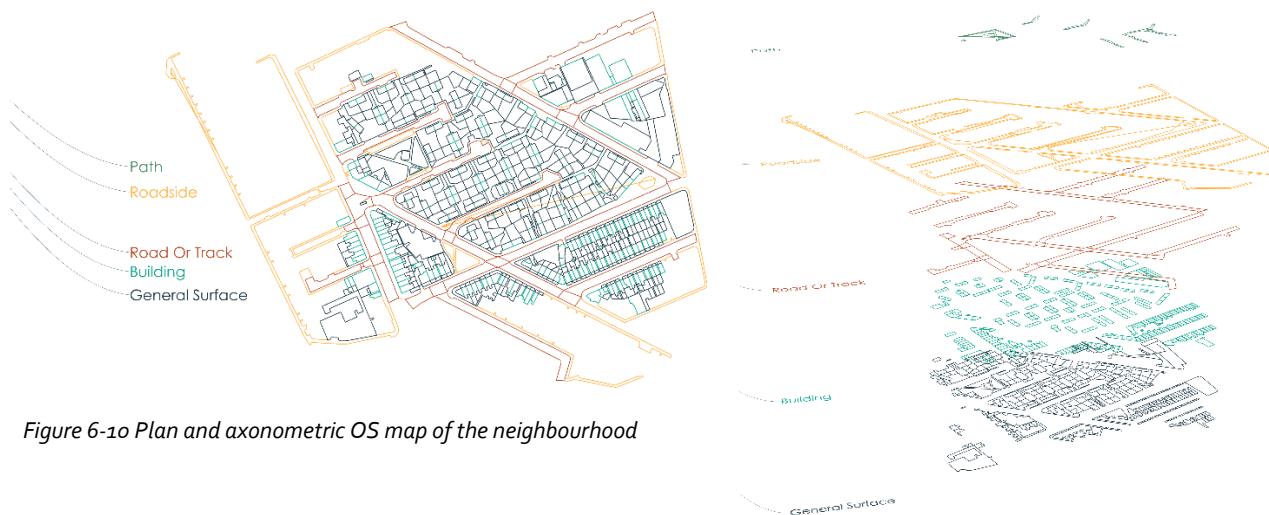


Figure 6-10 Plan and axonometric OS map of the neighbourhood

³¹ The position of each one of these maps is chosen with the rationale of moving from higher scale to the lower scale and therefore scaling up from study of the entire group to study of every individual inside that group. However, the positions of the maps in the overall platform are not fixed and can be changed as the user desires.

³² Office For National Statistics, National Records Of Scotland, and Northern Ireland Statistics And Research Agency, '2011 Census Aggregate Data (Data Downloaded: 1 June 2016)' (UK Data Service, 2016), <https://doi.org/10.5257/census/aggregate-2011-1>.

³³ "The OS MasterMap Topography Layer was developed to provide the most detailed topographic data available of the physical environment of Great Britain. OS MasterMap Topography Layer contains features that represent objects in the physical environment such as buildings, roads, paths, railways, rivers, lakes, fields, fences and letter boxes." For more information please see 'Digimap Ordnance Survey Help', accessed 4 April 2017, http://digimap.edina.ac.uk/webhelp/os/osdigimaphelp.htm#data_information/os_products/mastermap_topo.htm.

& <https://www.ordnancesurvey.co.uk/docs/user-guides/os-mastermap-topography-layer-user-guide.pdf>



Figure 6-11 Satellite imagery, interchangeable to available imagery such as shadowing or infrared for green space measurement.

Moreover, next to the previous map a feature was added to be able to superimpose satellite imagery on top of the OS map (shown in Figure 6-11). This layer can be changed to other opensource and available online maps.³⁴ such as street maps, shaded relief, boundaries and places, transportation or infrared imagery for green space measurements.

On top of the satellite imagery and/or urban plan (OS) layer, land-use maps and points of interests can also be illustrated with hatches and colours (Figure 6-12) to show the accessibility of services and the level of mixed-use within a hectare of the located inhabitant.

The OS map provides a wide range of information relating to the urban environment, however, it is incapable of giving an overall 3-dimensional view of the city that helps to grasp size and height of the blocks, skylines, and congestion of building blocks. In architecture practice, it is particularly beneficial to have a 3-dimensional (3D) understanding of the space as that is how space is experienced by people rather than showing the data for height and terrain in a 2d plan. A 3D model of the city also enables the analysis of views, shadow and lighting. Therefore, the program also generates users' environment

Figure 6-12 Land use & point of interest layer superimposed on urban plan and/or satellite imagery.



³⁴This maps are using world imagery service provided by esri, arcgis for more info please see 'World Imagery (MapServer)', accessed 5 April 2017, http://server.arcgisonline.com/arcgis/rest/services/World_Imagery/MapServer; 'ArcGIS | Main', accessed 5 April 2017, <http://www.arcgis.com/features/index.html>.

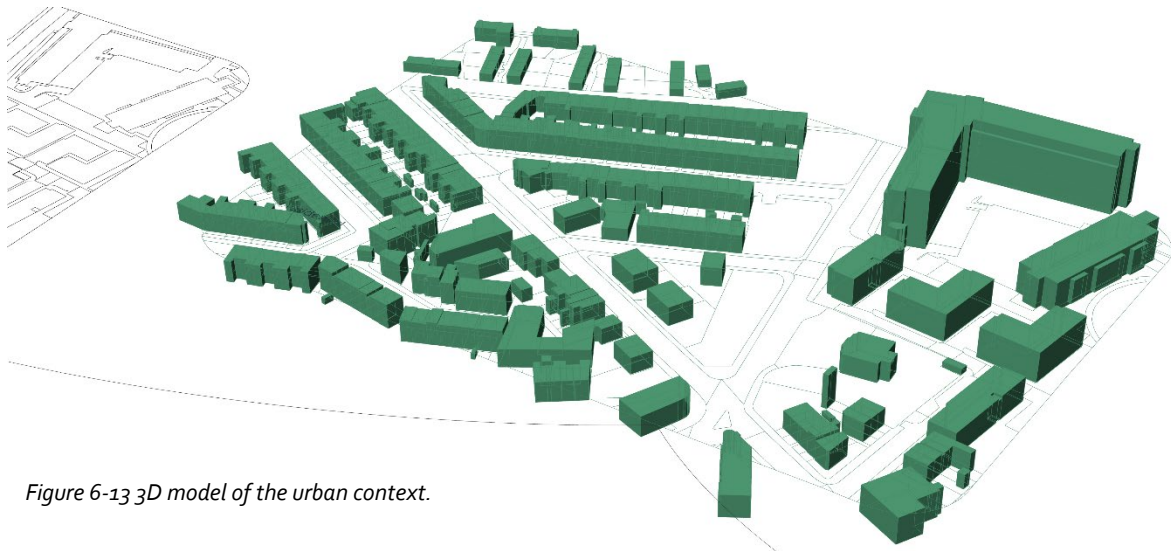


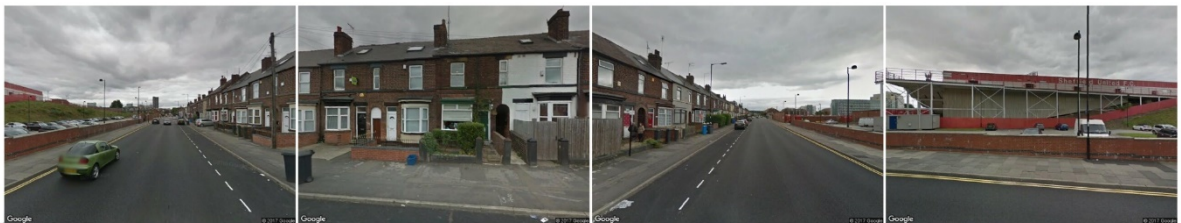
Figure 6-13 3D model of the urban context.

in 3D, including buildings, as well as projecting the urban map on the land's topographic 3D model. (Figure 6-13)

Plan and 3D view of the city create a familiar representation for the urban designer or architect and provide a useful overview of the city. Here the designer becomes *Icarus* to experience the city from above. Michel de Certeau makes a distinction between discovering the city from above (*Icarus* alike) and from within via step by step exploration through walking. De Certeau argues that for people, the city is understood on the ground level where walking occurs as a *spatial acting-out of the place*. He criticises the urban cartography for its inability to represent the *very act of walking* by substituting the act with the trace left behind by it.³⁵ Here the mapping provides an 'overview'. It is not a complete overview, being confined within the limitation of a map (i.e. amount of details or particular top-down view), nonetheless, neither is the route of a *flaneur*. While the previous two phases of performative mapping methods challenged this act of capturing the overview and attempted to re-perform the *flaneur*, in this phase the map takes the viewpoint of *Icarus*.

That being said, to create a more comprehensive view of the physical environment it is beneficial to add views to the street and buildings (*flaneur like perspective*), showing typology, state of the street, materials, pavements, skyline, etc. (Figure 6-14). Here the map can use two depositories: One is the photographs taken during walks in the neighbourhood (by the mapper/me in this case or residents themselves) and use the GPS to pinpoint the pictures' location on the maps. Second, in case that the

Figure 6-14 Street view of resident's street & estimated house. Including a section for his/her comment.



Comment:
Deprived areas seem to receive more investment, while the average areas get neglected. Our park is very run down, and our school doesn't seem to get as much funding as others a couple of miles away. I feel this impacts on the children.

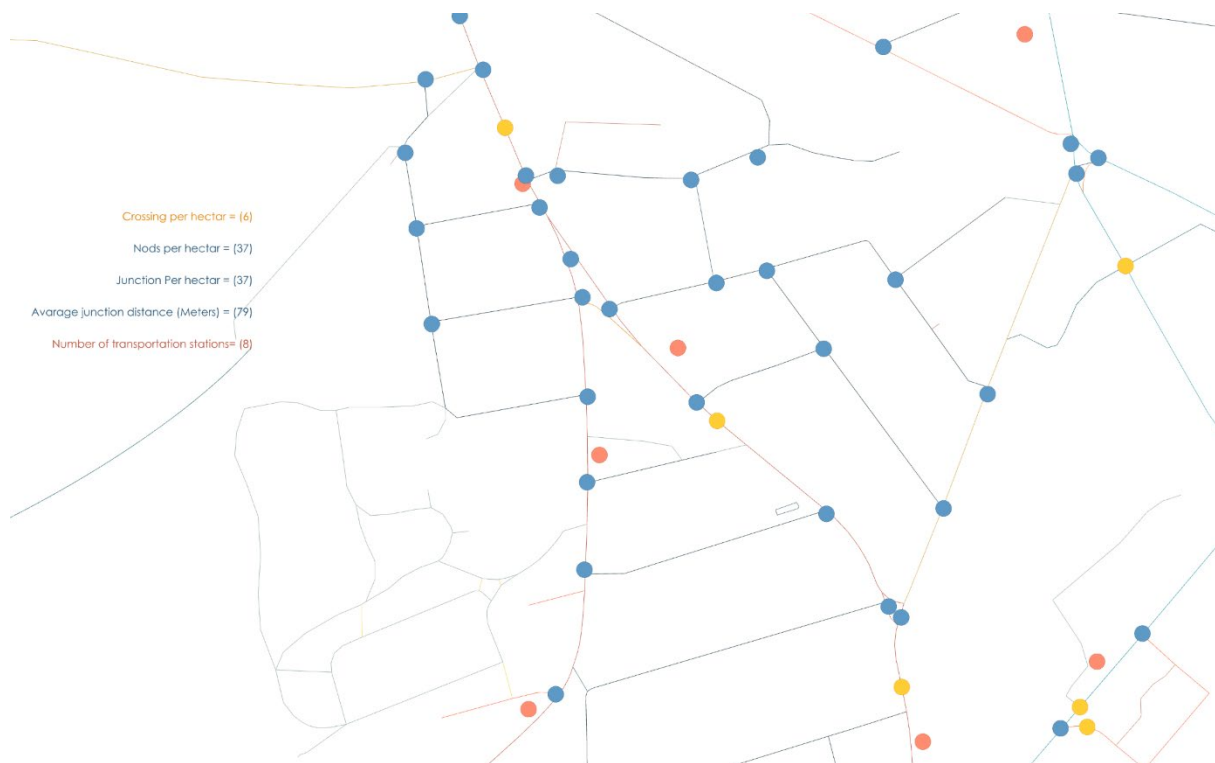
³⁵ Michel de Certeau and Steven Rendall, 'Walking in the City', in *The Practice of Everyday Life* (Berkeley: University of California Press, 1984), 97.

personal depository has no picture of the location, the map uses an online depository (in this case Google Street View³⁶) to provide a 360-degree view (4 pictures) of the household blocks and street.

The priority in this mapping is to use personal photography and take walks through the streets. This method in no way attempts to replace on site exploration with remote representation of the street through pictures. This is rather a complementary part to create a more comprehensive view of the built environment. Pictorial analysis of the street has limitations on aspects such as noise and odours which cannot be measured at all with this method and some other aspects (such as those depending on time e.g. traffic or social interactions) have small or temporal reliability. However, a number of researches on United States' cities have found that Google Street View can provide a *resource-efficient* and *reliable* alternative to in-street physical reviewing of attributes of neighbourhood streetscapes.³⁷

As discussed previously in Chapter 5, there are a number of physical qualities that should be mapped through urban plan and street layout analysis, such as legibility and connectedness, which can be measured through the number of nodes, junctions and crossings per hectare and block size, i.e. average distance between junctions. Moreover, accessibility can be understood through the number

Figure 6-15 Map of street network with measurement for number of nodes, junctions and crossings per hectare as well as number of transportation station (bus, taxi, ...) per hectare.



³⁶ 'Google Street View – Explore Natural Wonders and World Landmarks', Google Street View, accessed 6 April 2017, <https://www.google.com/streetview/>.

³⁷ Jeffrey S. Wilson et al., 'Assessing the Built Environment Using Omnidirectional Imagery', *American Journal of Preventive Medicine* 42, no. 2 (February 2012): 193–99, <https://doi.org/10.1016/j.amepre.2011.09.029>; Hannah M. Badland et al., 'Can Virtual Streetscape Audits Reliably Replace Physical Streetscape Audits?', *Journal of Urban Health* 87, no. 6 (December 2010): 1007–16, <https://doi.org/10.1007/s11524-010-9505-x>; Philippa Clarke et al., 'Using Google Earth to Conduct a Neighborhood Audit: Reliability of a Virtual Audit Instrument', *Health & Place* 16, no. 6 (November 2010): 1224–29, <https://doi.org/10.1016/j.healthplace.2010.08.007>; Candice L. Odgers et al., 'Systematic Social Observation of Children's Neighborhoods Using Google Street View: A Reliable and Cost-Effective Method: SSO in Street View', *Journal of Child Psychology and Psychiatry* 53, no. 10 (October 2012): 1009–17, <https://doi.org/10.1111/j.1469-7610.2012.02565.x>; Reid H. Ewing and Otto Clemente, *Measuring Urban Design: Metrics for Livable Places* (Washington, D.C: Island Press, 2013), 80–82.

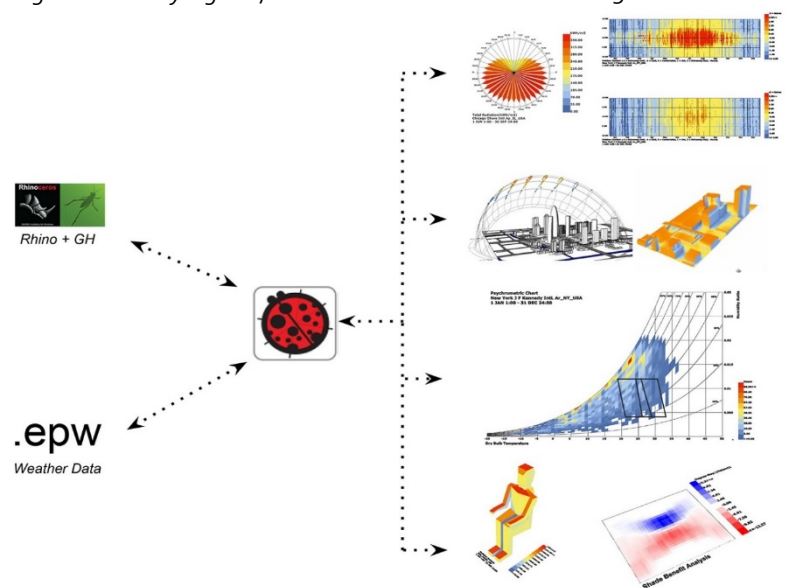
of public transport means (bus stops, taxis, ...) and the distribution of them in the neighbourhood. These attributes have been mapped and visualized as part of the program as illustrated in Figure 6-15.

The overall produced map is proposed as both methodology and a resource that brings multiple dimensions and perspectives together. Being developed as an opensource platform, a great advantage of this platform is the possibility to connect this mapping to other external programs developed separately by other developers. In this way the maps are not confined but rather can be opened up to other maps and analysis. This opens the lines of Mapping Multiplicity to other kinds of lines and a much broader multiplicity of data, information and analysis. The Mapping Multiplicity can become a hub that represents relations between all these various methods, linking social and political themes to various physical and spatial analyses. The following are some examples of possible collaborations with other programs.

*LADYBUG TOOLS*³⁸, developed by Mostapha Sadeghipour Roudasri, provides a range of environmental analyses such as sun-path, wind-rose, radiation-rose, run radiation analysis, shadow studies, and view analysis (Figure 6-16.). Another capability of this program called *Honeybee* connects the map to external validated simulation engines, for instance OpenStudio, Energy plus, Radiance and Daysim that are widely used for building energy, lighting, daylighting and comfort modelling. Moreover, a similar plug-in is *DIVA*, which was developed at the Graduate School of Design at Harvard University and is distributed by Solemma LLC.³⁹ *DIVA* can be used for energy and daylighting simulation for urban sites or individual buildings. These programs can help to analyse environmental factors and possible energy and sun deprivation in buildings and urban areas (e.g. shadowing). Moreover, *SmartSpace Analyser*, developed by SMART Solutions Network, is a plug-in for distance mapping, connectivity and visibility analysis that is used from urban to building scale simulations. Another useful plugin is *Mosquito* developed by Carson Smuts.⁴⁰ *Mosquito* can extract data (e.g. location, buildings, OpenStreetMap, messages and images) from social media (e.g. Facebook, Twitter, Flickr) and aids to map virtual identity on the physical map.

Figure 6-16. Ladybug tool, under GNU General Public License v3.0 or later

All these programs need spatial data or location to be able to link the analysis. These data sets are produced as part of the Mapping Multiplicity program. For example, in order to connect to the *LADYBUG* tools and other spatial lighting analysis, the 3D model produced in the Mapping Multiplicity program (as shown in Figure 6-13) can be used as the basis. And *Mosquito* tools can be connected via location and urban plan data produced in my mapping as shown in Figure 6-9



³⁸ 'Ladybug Tools', accessed 7 April 2017, <http://www.ladybug.tools/>.

³⁹ 'Solemma LLC', accessed 10 April 2017, <http://www.solemma.net/Diva.html>.

⁴⁰ 'Mosquito | Studio Smuts', accessed 10 April 2017, <http://www.studiosmuts.com/ceed3/mosquito/>.

Accessing the data and other open source programs available online can provide a rich resource of information and analysis that was often used in recent years in many research projects.⁴¹ The Mapping Multiplicity program can also become part of the network of these opensource programs and, by making research and analysis more accessible for a wider user groups, it becomes possible to expand the analysis of (in)justice. By continuing to converse about (in)justice, and expanding related analyses, this topic can become central to the activity of planning and design and therefore start to change popular discourse and enlarge the boundaries of action toward justice.

6.1.2 The Mapping Multiplicity's website concept

While the mapping platform is created to inform urban designers, planners and city decision-makers, the website will provide access to the map for the residents. By giving access to inhabitants it becomes possible for them to share their experiences, create communities based on their assemblages, take collective action, become aware of others' conditions and be engaged in creating and implementing a common vision for a just city.

The website is conceptualised as opensource, based on a Web 2.0 platform which enables two-way interaction of residents with the map. The produced maps can be published online and create an ongoing engagement with the platform. After registration, participants receive a user ID account. By responding to the questionnaire, it becomes possible for the platform to place them within the map's rhizome.

The website can offer further functionality to both residents and designers. It can become a forum where users, communities and designers come together and communicate. The visual characteristics of the map can offer opportunities for connecting users who share similar experiences, values, ideas or concerns, enabling inhabitants to connect with each other and related collectives (assemblages created as the result of the map). It offers the opportunity for the participants to introduce new qualities and, on the basis of these new qualities (strata), to create new assemblages. In this way the map further evolves and the rhizome (the map) further grows.

The website can offer direct communication among users, which is useful particularly for those who are in the same assemblage. Each assemblage can open up an internet forum page⁴² related to the topic of the assemblage. This allows for the creation of communities and conversations over particular issues and can ultimately lead to initiating collective actions. By making assemblages visible the map can reveal shared ideas and concerns as well as shared experiences of injustice. In this way not only can it raise awareness but it also allows for different users to connect and discuss issues otherwise difficult to raise, or for people to meet based on shared concerns who might not have been

⁴¹ For example you can see: Steven E Koonin, Ori E Wolfson, and Yu Zheng, *The 2nd International Workshop on Urban Computing: (UrbComp 2013) : August 11, 2013 - Chicago, USA* (New York: ACM, 2013), <http://dl.acm.org/citation.cfm?id=2505821>; Samiul Hasan, Xianyuan Zhan, and Satish V. Ukkusuri, 'Understanding Urban Human Activity and Mobility Patterns Using Large-Scale Location-Based Data from Online Social Media' (ACM Press, 2013), 1, <https://doi.org/10.1145/2505821.2505823>; Michiel de Lange and Martijn de Waal, 'Owning the City: New Media and Citizen Engagement in Urban Design', *First Monday* 18, no. 11 (25 November 2013), <https://doi.org/10.5210/fm.v18i11.4954>; Yu Liu et al., 'Uncovering Patterns of Inter-Urban Trip and Spatial Interaction from Social Media Check-In Data', *PLOS ONE* 9, no. 1 (17 January 2014): e86026, <https://doi.org/10.1371/journal.pone.0086026>.

⁴² "An Internet forum, or message board, is an online discussion site where people can hold conversations in the form of posted messages. They differ from chat rooms in that messages are often longer than one line of text, and are at least temporarily archived." For further information please see techterms.com, 'Web Forum Definition', accessed 28 September 2017, https://techterms.com/definition/web_forum; 'Internet Forum', *Wikipedia*, 5 July 2017, https://en.wikipedia.org/w/index.php?title=Internet_forum&oldid=789199489.

able to meet or enter into a conversation otherwise. This interaction among residents can transform into proposals, petitions or movements and collective actions demanding improvements that are meaningful for their community.

These conversations, proposals and demands among users can be brought to the attention of the planners, designers and decision makers. These may refer to injustices in relation to social issue (e.g. lack of tolerance among neighbourhood residents) or refer to demands for better spaces and urban features (such as expansion of public green spaces) or services (e.g. better community or leisure facilities). Some of these issues may be outside formal city plans; nevertheless, the map can make planners and designers aware of their importance for the everyday life of inhabitants. This could suggest opportunities for new policy ideas concerning the public realm that might not have occurred to them otherwise (e.g. potential activities, spatial interventions needed or existing activities to be encouraged).

The opensource aspect of the map enables any relevant design or research group to adopt and use the map for their projects, (e.g. grass root groups, activists and design and planning offices). The resulting data set is also intended to be archived in an opensource database. By doing so it gives access to a wider audience, enabling other groups to use or modify it based on their needs, in addition to enabling them to contribute their own findings. In this way the map can grow horizontally, enhancing horizontal practices and initiatives but also encouraging a culture of collaboration across various groups. While necessary for developing integrated solutions, policies and interventions, this collaboration of various groups is beneficial for achieving the vision of a just city.

Moreover, it is possible to connect mappings of individual groups (who use this program) to create a larger network of maps with extended data. This can provide greater understanding of how (in)justice is experienced in different parts of cities, countries and the world. While this network can provide macro-scale information, it also contains particular conditions of each area. Such information can help to provide situated solutions, relieves and aids specific to their needs. Subsequently, it becomes possible to create a depository of various solutions and proposals and to initiate cooperation and wider discussions on how to tackle the diversity of unjust conditions. The mapping program can be used to make a connection between the issues and where they take place and the related design, planning solutions or aids and charity relieves. In this way the mapping program can also be propositional, providing related solutions to resolve the issues that were discovered through the mapping.

Therefore, the map can offer a more comprehensive and resource-efficient way to conduct surveys than on-street questionnaires. An important element in this re-engagement process is to complement technology with more reflective approaches in order to bring to the surface those elements of practice that may otherwise go unnoticed. It enables residents' engagement to be more flexible and offer opportunities for transforming their involvement into an ongoing process that can improve current forms of participation which often take place only in particular phase of the planning and designing process.

6.2 An example of relational analysis represented in Mapping Multiplicities of (in)justice

In the previous subsection I described the Mapping Multiplicity platform and its various features and parts. In order to demonstrate the platform features, I will in this section further explain how the relational analysis between different qualities (strata) in the program can be used and interpreted by providing an example.

First I start with a short example of a one stratum analysis to represent the relationships between a chosen quality to all other qualities. Then, in order to add more detailed information to the analysis and find relations more specific to a community, two strata relational analysis is used. For this example, two assemblages of the Middle Eastern and white residents (on the basis of residents' racial/ethnicity stratum) were chosen, since in phases 1&2 Middle Easterners emerged as the ones with the most examples of experiences of (in)justice while native residents represent the dominant culture in the UK. Then I use the program to represent the difference in their values, behaviours and experiences in the city.

As mentioned, the data used for the analysis was gathered based on the survey conducted in the three case study areas. In total, 208 individuals participated in this questionnaire, of which 201 were admissible.⁴³

6.2.1 One stratum (quality) relational analysis

For the first example of analysis I start with a one stratum (quality) analysis. One strata analysis simply enables the user of the program to illustrate the relationships between a chosen stratum and every other stratum. The first stratum is shown in the mapping as the first vertical line on the left side of the figure. For example, I chose "experience of injustice"⁴⁴ as the first stratum. As is shown in Figure 6-18 it contains assemblages of 'No' with 63.7% (red lines), 'Yes' with 32.2% (blue lines) and 'No answer' with 4% (yellow lines) of the responses. I have then the option to choose one of the assemblages and visualise the rest of the diagram in relation to that assemblage. In this case I choose 'Yes' (blue lines representing residents' who experienced injustice) and the diagram automatically visualizes all the strata in relation to participants who experience injustice. The qualities are visualised in the program from the most related to the least related, i.e. the order of the strata (qualities) is based on the size of the assemblage (answers)⁴⁵ and when moving from left to right of the diagram the size of the illustrated assemblages reduces as the replies become more divergent (and therefore less related to the first assemblage chosen).

I also have the option to visualise the strata one by one or all together. It is more time efficient to visualise all the strata at the same time since in the program it is possible to move around the

⁴³ I have removed participants who did not respond to more than 50% of the questions. Further information about the questionnaire and method for conducting the research can be found in Chapter 3 and Appendix VI.

⁴⁴ Responding to the question "Do you experience injustice and unfairness in your daily life because of who you are or your identity?"

⁴⁵ The second stratum is the statement "Have you ever felt discriminated because of who you are or your identity?" to which 84.6 % of people who experience injustice responded yes. Therefore, the 'yes' assemblage of the first stratum has 84.6 % of respondent in common with the 'yes' assemblage of the next stratum.

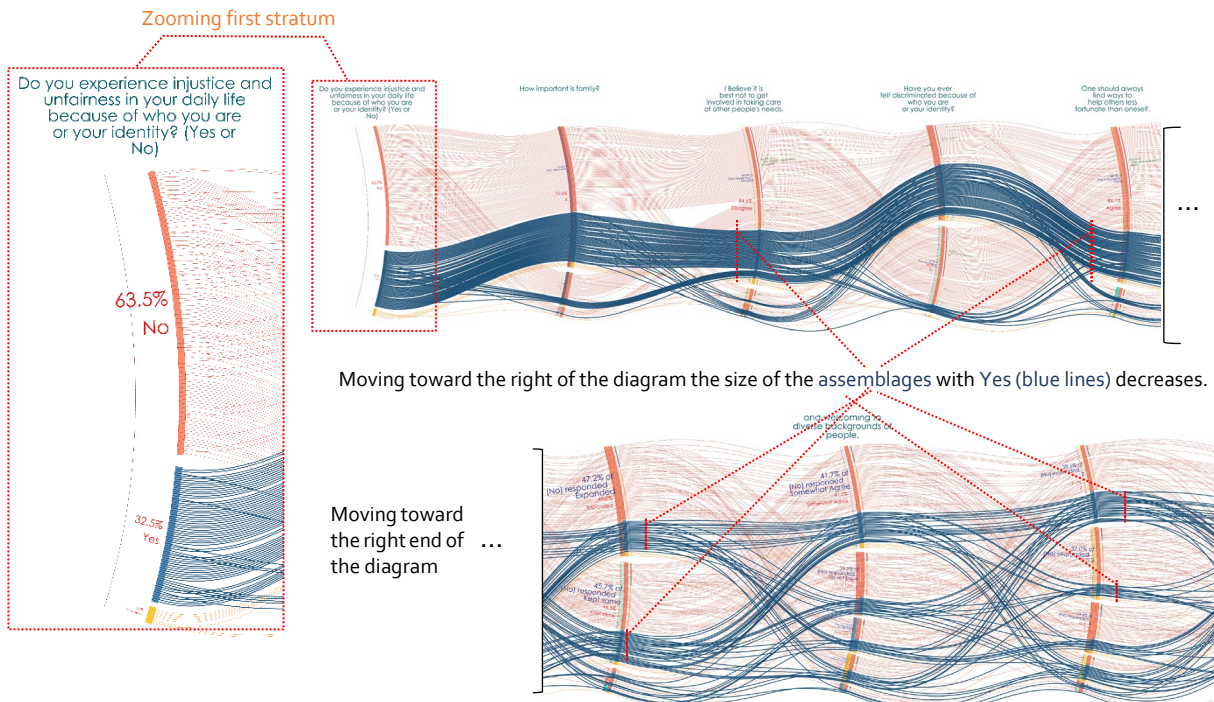


Figure 6-17 Diagram visualizing the relation of first stratum (people who experience injustice) with every other stratum organized from the most to least related assemblages (answers). Labels in red show the percentage of the assemblage.

visualisation and zoom in/out. However, since there is a print size limitation (A4 paper) for this thesis I will only visualise between two to six strata at a time.

For instance, in our example 66.2% responded 'Highfield' in the 'neighbourhood' strata; this means 66.2% of the people who experienced injustice are residing in Highfield (Figure 6-17). In this analysis, the program found 41 relations and visualised them from the highest common response to the least. If desired, one way to reduce the number of found relations is to provide a cut-off point. For instance, any answer lower 60% would be filtered out and not shown. In this way we can visualise only higher significances between the strata. In the case of "experienced injustice" the diagram reduced the findings to 13 strata (between 86% as highest to 60%).

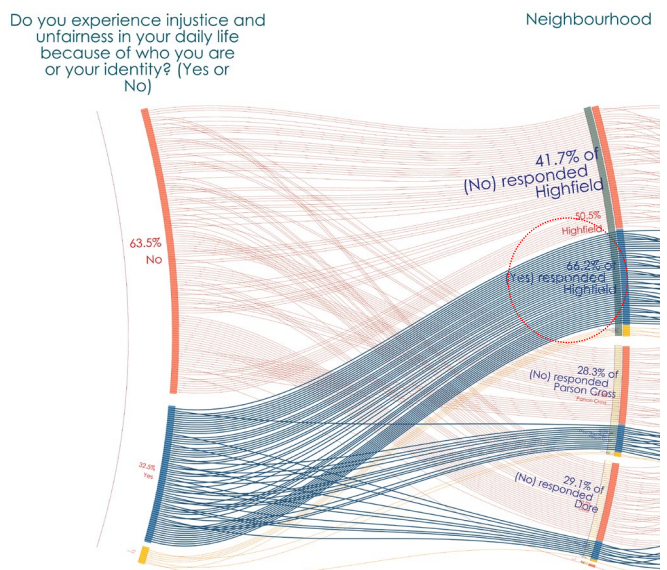


Figure 6-18 Diagram of relation between experienced injustice and neighbourhood stratum.

It is possible to choose two assemblages in one strata (Yes responses and No responses) and find the relations of these two with other strata (qualities); this is the same process as explained above but with a larger number of strata visualised.

It is also possible to find a contrasting relation (analysis of variance) between two assemblages. For example, I want to find out in which strata (questions) people who experience injustice (EI) and those

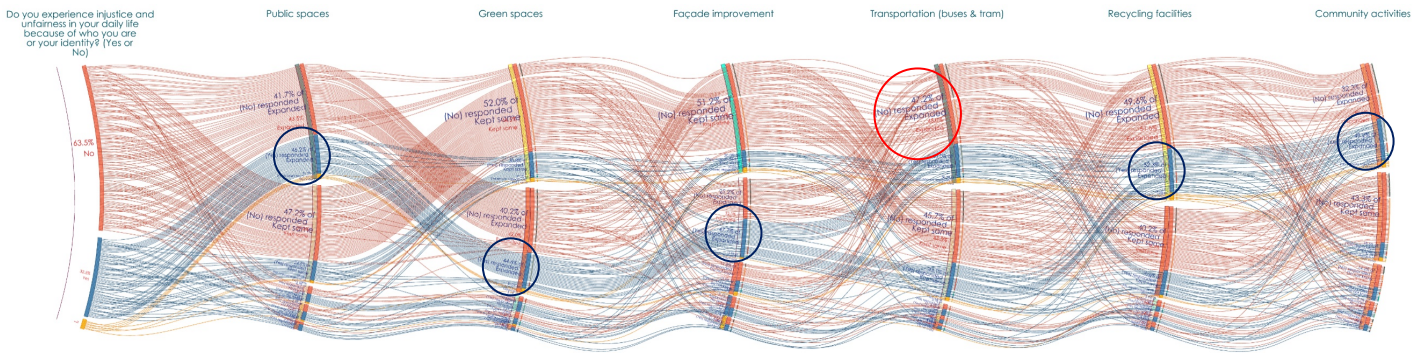
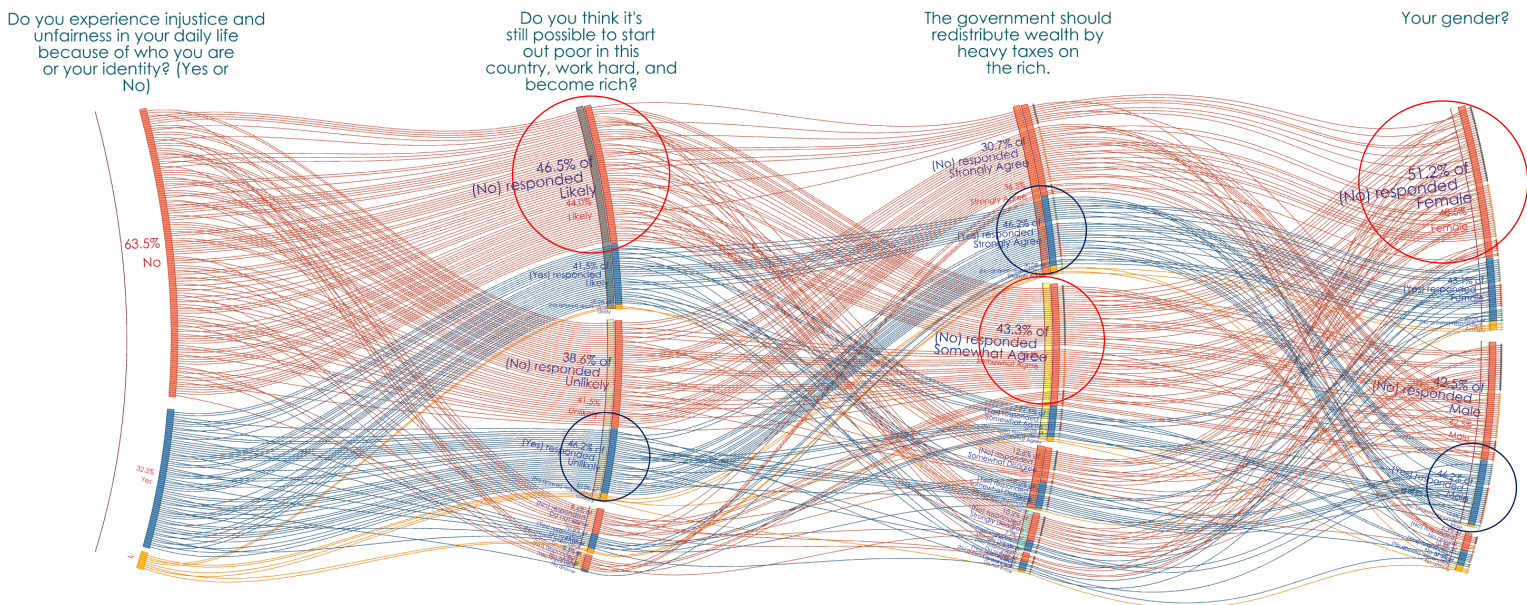


Figure 6-19 Contrasting relation between EI and NEI in spatial and urban improvement.

who identified themselves as not experiencing injustice (NEI) differ the most. Accordingly, for this analysis, I chose Yes and No assemblages in the experience of injustice strata and ran the analysis with a cut-off point of 60% –thus not to go into too much detail in this demonstration. The program visualises 13 strata of contrasting relations (variance).⁴⁶ I briefly explain these 13 strata in the following and visualise them one by one.

When comparing people who experience injustice (EI) with those who do not (NEI)⁴⁷ with regards to their responses to requesting spatial and infrastructural improvement (Figure 6-20), EI require that public spaces, green spaces, recycling facilities, façade improvements and community activities need to be 'expanded', while NEI answer that everything can be 'kept the same' and instead asked for

Figure 6-20 Contrasting relation between EI and NEI in political inclination, social mobility and gender.



⁴⁶ The strata (questions) in order include: 1. The government should redistribute wealth by heavy taxes on the rich. 2. Do you think it's still possible to start out poor in this country, work hard, and become rich? 3. Your gender? 4. How important is leisure time? 5. How important are friends and acquaintances? 6. How important are people in your neighbourhood? 7. Have you ever felt discriminated because of who you are or your identity? 8. I have done something to avoid discrimination. 9. Public spaces 10. Green spaces 11. Façade improvement 12. Transportation (buses & tram) 13. Community activities

⁴⁷ EI=Experience Injustice and NEI= Do Not Experience Injustice

Do you experience injustice and unfairness in your daily life because of who you are or your identity? (Yes or No) How important is leisure time? How important are friends and acquaintances? How important are people in your neighbourhood?

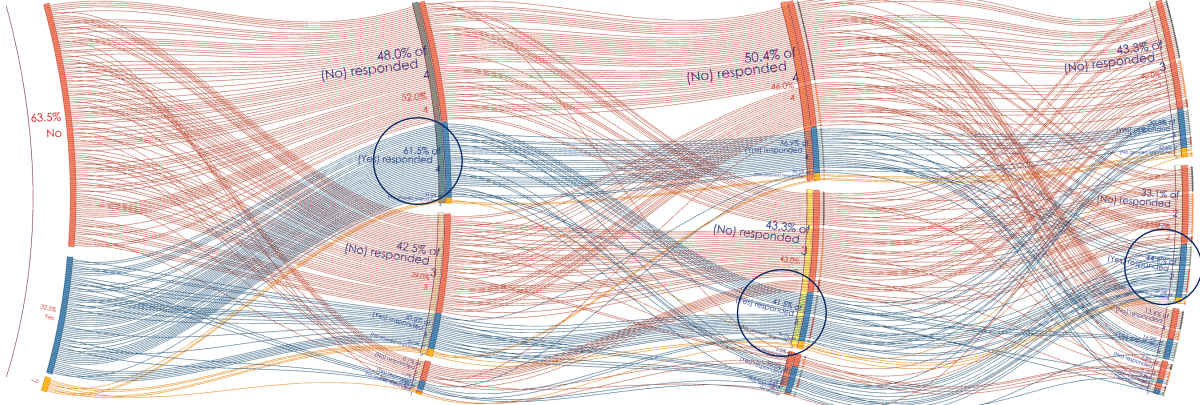


Figure 6-21 Contrasting relation between EI and NEI in priorities.

expansion in transportation. Thus, there is a relation between experiencing injustice (IE) and the need for development of public and green spaces, façade improvements and community activities in the respective neighbourhood.

In terms of political-economy, the diagram shows that people who experience injustice strongly agree that heavy taxation of the rich is necessary for a just distribution of wealth while NEI stand in contrast with them and only a minority of 30% agree. The majority of EI hold the perception that even though working hard it is unlikely for one to be able to go up the social ladder and therefore there is a low social mobility, while most of NEI hold a more positive view, believing it to be likely or very likely to improve one's social status (Figure 6-19). In terms of gender, the majority of EI are male, while a slight majority of NEI are female (52%). And as the visualisation (Figure 6-22) shows, 85% of the EI believe they experience discrimination on the basis of their identity and 63% actively took action to avoid discrimination. Moreover, while for EI leisure time is more important, friends, acquaintances and neighbours have a lower priority compared with NEI (Figure 6-21).

Do you experience injustice and unfairness in your daily life because of who you are or your identity? (Yes or No) Have you ever felt discriminated because of who you are or your identity? I have done something to avoid discrimination.

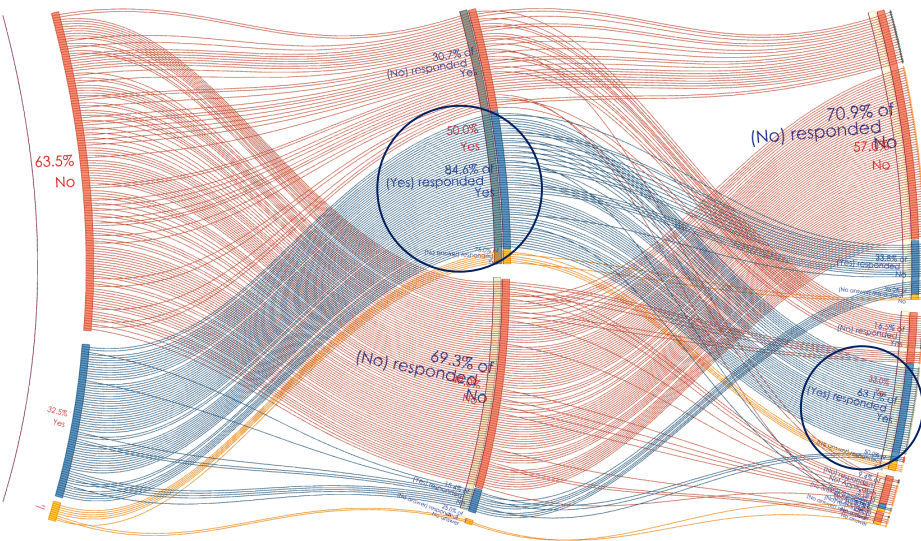


Figure 6-22 Contrasting relation between EI and NEI in discrimination and actively took action to avoid it.

As mentioned, the map overall identifies 41 differences between EI and NEI. Here I briefly mentioned some of these difference; however, it is beneficial for the program to represent more specific collectives (e.g. based on ethnic, national or religious identity) to explore if there are particular differences existing between the experiences of these communities. It is possible to add more than one quality in creating an assemblage and to thus focus the analysis to a particular collective or a community and map the differences in their behaviour, conditions or experiences. Thus, in the next example I use two strata (i.e. assemblages on the basis of two qualities) and show their differences.

6.2.2 Two strata (quality) relational analysis

In order to represent a more situated information in the analysis and find relations more specific to a community (assemblage) two strata relational analysis was used in this subsection.

With one stratum analysis we only represent the IE and NEI. This analysis does not provide additional information on the groups within these assemblages, for instance how people with diverse ethnic identity experience the city and (in)justice differently. Simply put, in two strata analysis the

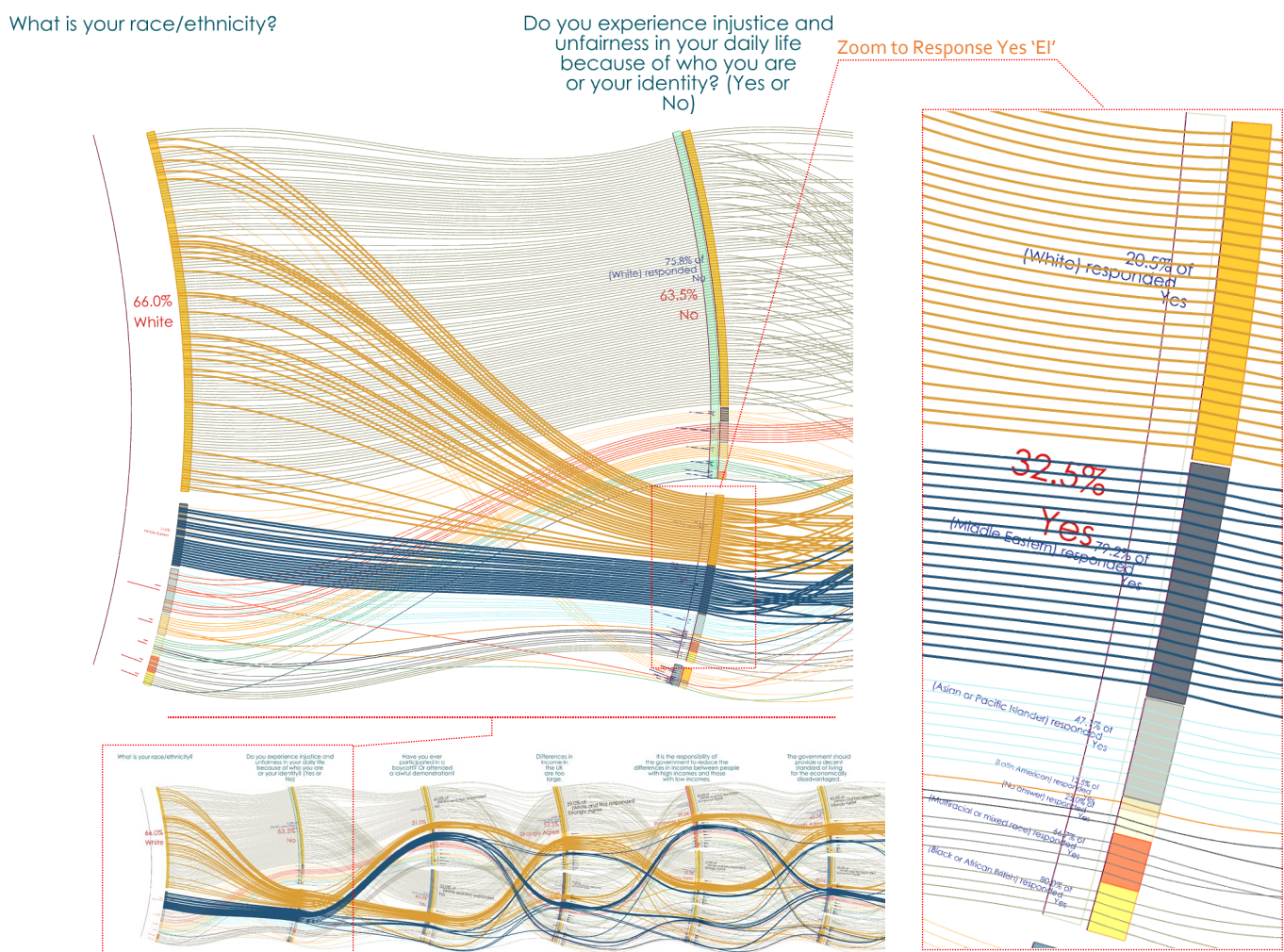


Figure 6-23 Two strata (experience injustice & Race/ethnicity) relational analysis. Dark Blue lines represents Middle Eastern population experiencing injustice and Light Orange lines represent White population experiencing injustice.

relationship between two simultaneous qualities and all other qualities is visualised. Building on the previous example, which represented assemblages of participants who identified as having experienced injustice (IE), a second quality of 'ethnicity/race' was added to the creation of the assemblages.

Thus, the first quality (strata) was organised based on 'ethnicity/race' and the second on 'people who experience injustice'. The resulting Figure 6-23 illustrates that 79.2% of Middle Eastern (dark blue lines), 47% of Asian or Pacific Islander (light blue lines), 12% of Latin American (light yellow), 66.7% of Multiracial or Mixed race (dark green) and 80% of Black or African British (light green) ethnicity mentioned they experience injustice, while only 20.5 % of white ethnicity (light orange) experience injustice. This confirms Young and Fraser's argument that there is a racial dimension of the issue of (in)justice.

The assemblages can be selected based on one or more qualities and as can be seen in Figure 6-23 if more qualities are chosen for an assemblage (in this case two) the number of the assemblages increases exponentially (18 for this example) and accordingly their sizes decrease as they are more specific to a group or collective. It is not important which one of the chosen strata (race/ethnicity or experiencing injustice) is located first or second since assemblages are created on the basis of both strata at the same time (ethnicity *and* experience of injustice).

During the previous two phases of mapping (discussed in Chapter 5) Middle Easterners often emerged as a community with many diverse experiences and also in this phase 80% expressed experiencing injustice (Figure 6-23), which is why I chose to compare this assemblage to white participants (who are arguably the dominant culture in the UK) in order to further understand the differences in their conditions, activities and experiences of injustice,. The mapping thus illustrates differences between Middle Easterners who experienced injustice (abbreviated as 'MEI') and white Europeans who experienced injustice (shortened to 'WEI'). The analysis maps 30 strata of variance that I elucidate in the following:

First, in terms of the political-economy theme, WEI are more opinionated and take stronger positions while more actively pursuing their demands compared with MEI. As illustrated in Figure 6-24, WEI

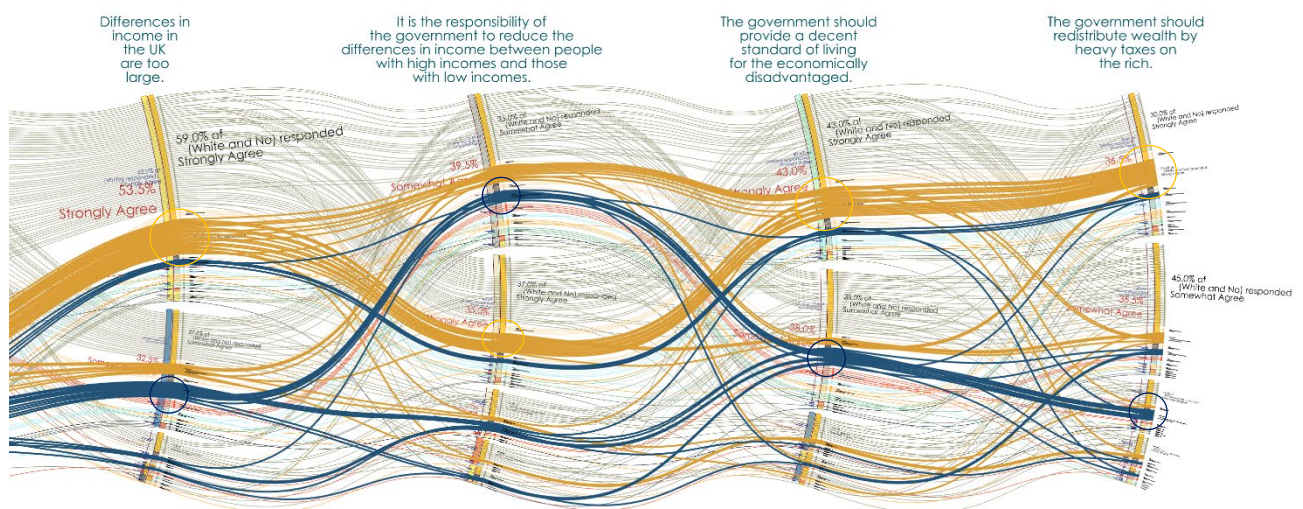


Figure 6-24 Contrasting relation in political milieu between Middle Eastern population experiencing injustice (MEI) with dark blue lines and white population experiencing injustice (WEI) with light orange lines.

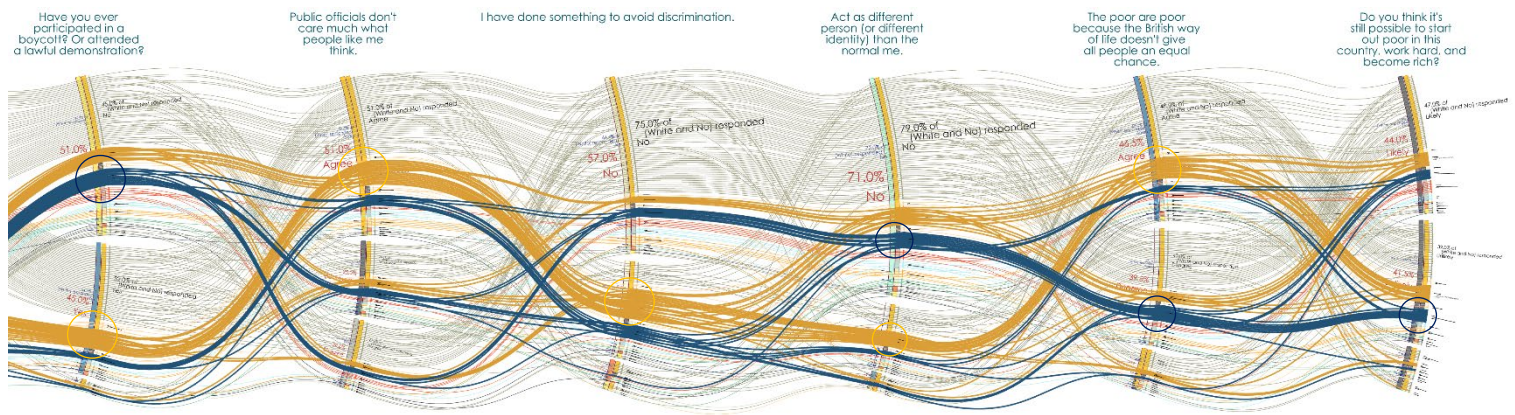


Figure 6-25 Contrasting relation in socio-political aspects.

strongly agreed that differences in income in the UK were too large and that it was the responsibility of the government to redistribute wealth (for instance by heavy taxation of the rich) and provide a decent standard of living for the economically disadvantaged, while MEI took much milder positions on these issues ('somewhat agree' or even 37% disagree on heavy taxation of the rich).

As Shown in Figure 6-25 One difference (that was not clear in previous one strata analysis) is that WEI are more actively involved in perusing their demands (for example through demonstrations) than MEI. the majority of WEI take action against discrimination, while MEI take less or no action to avoid discrimination. This confirm the same result of the previous phase and as discussed can be due to lack of representing political body/party, capital and knowledge about the processes and means to pursue their demands. However, to avoid discrimination MEI responded that they do not hide their identity, while WEI were divided. Most WEI believe that the British do not give people an equal chance of success, which most MEI disagree with, however, they think that it is unlikely for them to be able to go up the social class ladder (social mobility). This can be interpreted that MEI believe that the British give equal opportunities to all white Brits but not necessarily to the British of Middle Eastern ethnicity. Finally, the majority of WEI expressed cynicism toward governing organisation and believed that they have little or no influence on decision making, while MEI were equally divided in this matter.

In terms of social theme, looking at the importance of social activities and networks (illustrated in Figure 6-26), it can be seen that, while family is equally very important for WEI and MEI (WEI slightly less than MEI), leisure time and neighbours are more important for WEI than MEI, while work and religion are more important for MEI. We can further observe that caring less about friends and neighbours among MEI also becomes visible in relation to the trust strata (Figure 6-27), where WEI mostly trust their neighbours while 47.4% of MEI 'Do not know' if they can trust their neighbours and (42%) do not feel safe in their neighbourhood, which relates to the fact that they experience unjust behaviour more often.

As discussed previously in Chapter 5, trust facilitates cooperation among residents of a neighbourhood and, in a reciprocal manner, mutuality and collaboration help to create more trust which results in higher social cohesion. Furthermore, I have argued that cohesion among

How important is work in your life?

How important is leisure time?

How important are friends and acquaintances?

How important are people in your neighbourhood?

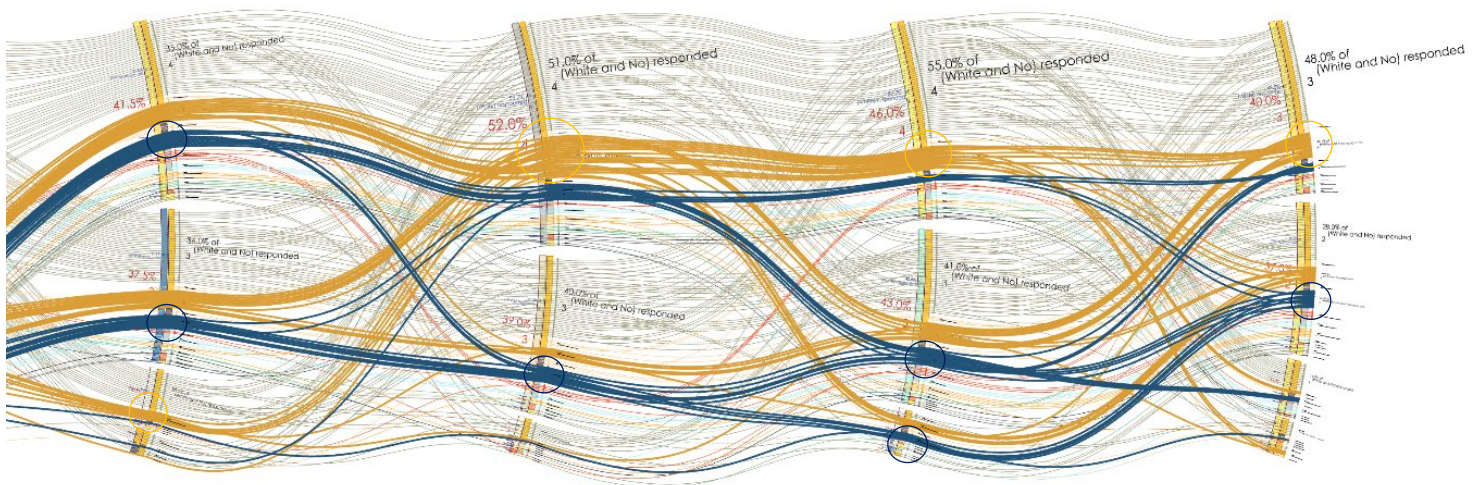


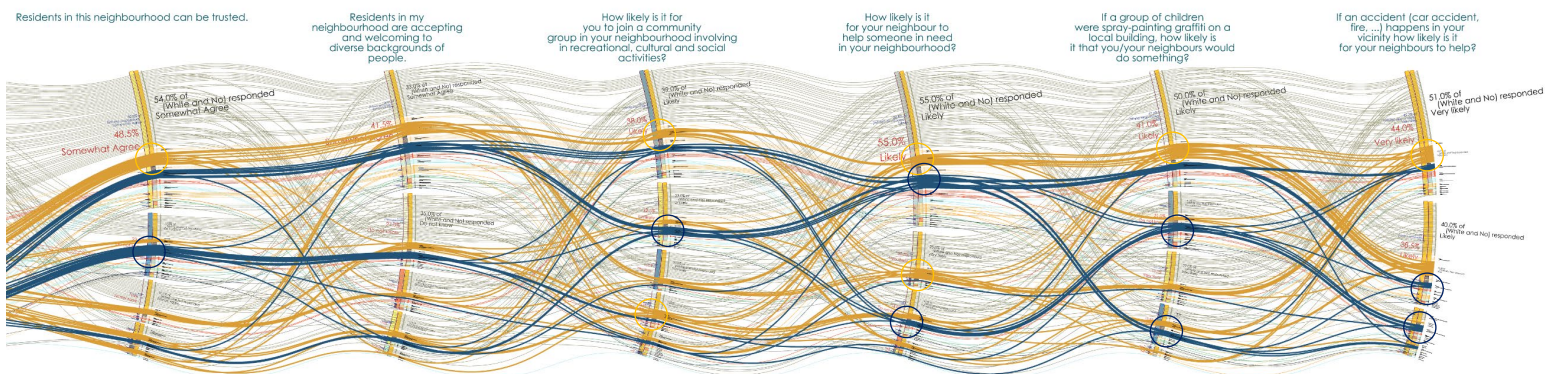
Figure 6-26 Contrasting relation in priorities.

neighbourhoods can enable recognition of different values among people and thus create a more just space. ⁴⁸ Thus trust, safety, reciprocity, interaction, social cohesion and just space create a rhizome.

Less trust in and lack of knowledge about their neighbours shows that MEI are living in a more isolated environment than WEI as we can see that MEI are less likely to join and interact with neighbours in their neighbourhood community compared with WEI (Figure 6-27). Even though MEI and WEI both equally agree that residents in their neighbourhood are accepting and welcoming to people of diverse backgrounds (although 32% of MEI answered 'Do not know'), MEI are inclined toward 'less likely' or 'do not know' if their neighbour would help in case of need or take action against anti-social behaviour compared with WEI that are inclined to very likely (Figure 6-27).

In terms of physical living environment MEI are less satisfied about the safety and public spaces but more satisfied with the shopping in their neighbourhood compared to WEI (Figure 6-29). We can accordingly observe that MEI are inclined to more expansion of public spaces while WEI are inclined to the expansion of transportation and recycling facilities (MEI are divided on recycling facilities).

Figure 6-27 Contrasting relations in trust, and interaction with community.



⁴⁸ For more info please see the section about qualities of social networks, community, trust and safety in Chapter 5.



Figure 6-29 Contrasting relation in safety, satisfaction of physical environment and need for expansion

As illustrated in Figure 6-28, although MEI (unlike WEI) would not avoid going to certain public places and are more willing to use them, they do not enjoy taking walks in their neighbourhood. This is, as shown, related to two factors, for which they ask for improvement: first, safety of their neighbourhood (which was also related to the lack of trust and interaction with their neighbours) - WEI strongly and somewhat believe that the residents in their neighbourhood get along with each other while most MEI somewhat disagree or do not know. Second, physical quality of the public spaces in their neighbourhood (Figure 6-29) where they ask for improvements. Moreover, although some WEI would prefer to live in another neighbourhood, MEI take a much stronger position in that they would rather leave their neighbourhood. On average, MEI have less sense of place attachment, have less interaction with their neighbourhood community and less sense of safety compared with WEI (similar to what was concluded in previous phases). This was illustrated to be related to social aspects, such as lack of trust and understanding, exclusion and (un)just behaviour as well as physical aspect such as lack of a good quality physical environment, including public places.

To further explore difference in the physical qualities of the MEI and WEI, I will connect the lines of these individuals to the lines of the physical maps, i.e. put the participants in their urban context using

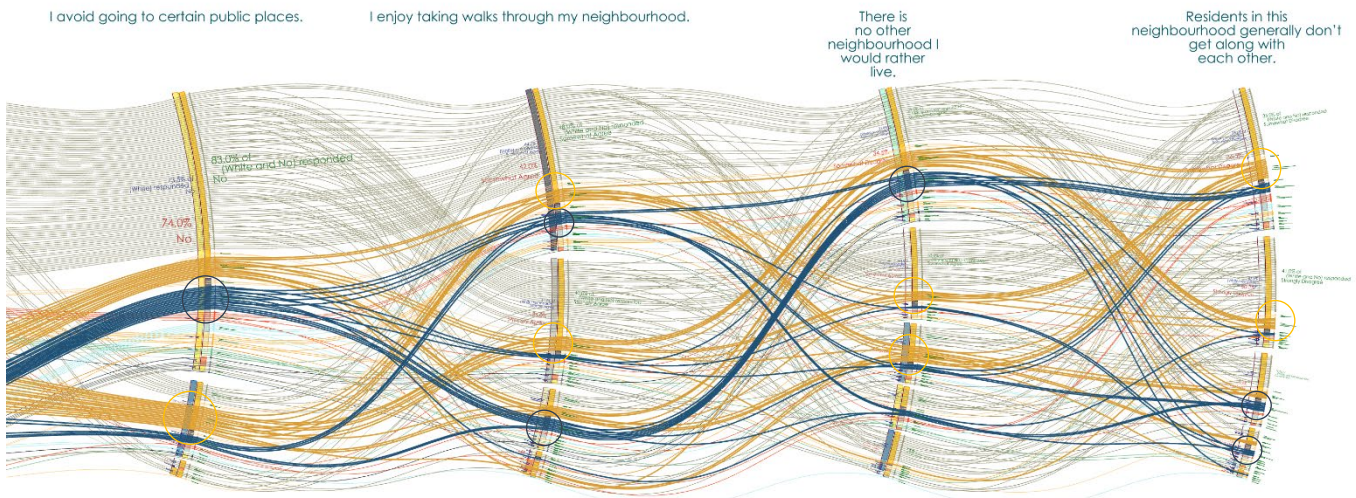


Figure 6-28 Contrasting relations in sense of belonging to the neighbourhood.

the physical (and spatial) 'bodies' of the mapping (Figure 6-30& Figure 6-31). WEI on average have more green spaces (trees) in the street, and the streets are better maintained, for instance they have less litter, better pavement and road conditions, while MEI have a higher number of shops and mixed-use land uses, and better accessibility to the city (more and more frequent bus lines). This could be due to the fact that MEI mostly live in higher density neighbourhoods (30.1 households per hectare) close to the city with mostly terrace houses compared with WEI (17.9 HHpH) who mostly live in semi-detached houses. Thus, another area of difference is that WEI, on average, live in bigger block sizes than MEI.

The example of analyses provided above can be conducted among all different assemblages, for instance between white who experience injustice and white who do not experience injustice or Middle Easterners who experience injustice and white who do not experience injustice. There is a multiplicity of options available to conduct the analysis and provide targeted and situated information and analysis and accordingly localised solution for each community (assemblage). Thus, in this way maps open up and are inclusive of all communities rather than disregarding them for reasons such as statistically insignificance or losing the subjectivity of community inhabitants as it often happens in quantitative analysis.

Since the mapping illustrates a dynamic record of inhabitants' social experiences within a spatial context, it is also a means for determining actions within such a context. Thus, the diagrams not only map the similarities and variances of experienced injustice but also possibilities and opportunities of how to address these demands. They act as tactics for understanding unjust space, comprising political-economic, social and cultural layers, and together representing the way the city is inhabited.

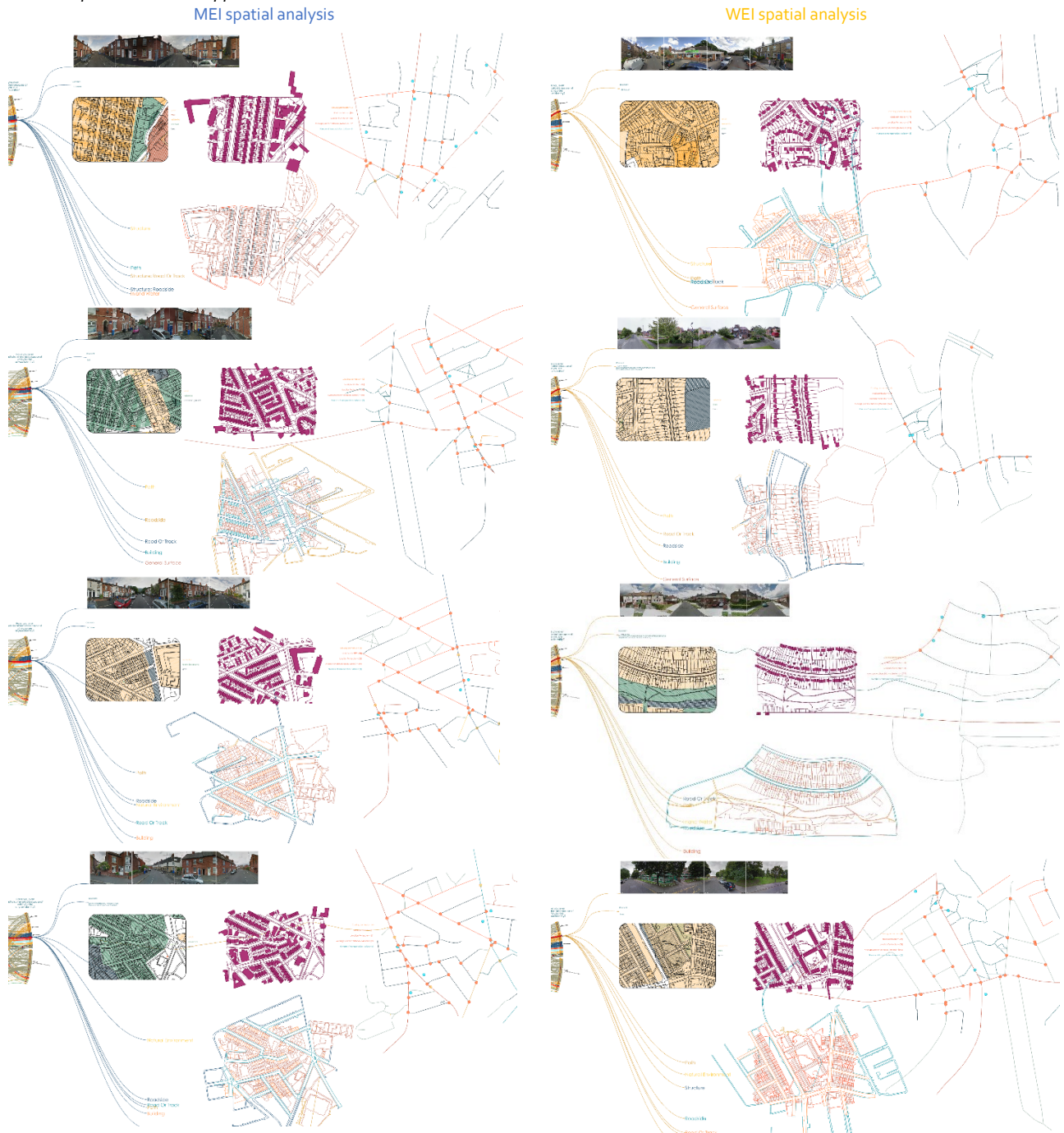
The example above discussed how the mapping tool functions and how (in)justices can be mapped through relational analysis of mapping multiplicities by illustrating similarities and differences (variances) among a variety of assemblages, communities and groups while individuality of participants is recognised within these assemblages.

Figure 6-30 Difference in street picture between MEI and WEI.



The outcomes of Mapping Multiplicity summarized above not only confirm the insights that were gained in the phases 1 & 2 but also complement and expand them. In this way, Mapping Multiplicity proves to be a capable tool to expand the mapping of (in)justice in the wider context of the city. In the following section I will first discuss the properties and possibilities of relational analysis in Mapping Multiplicity and its differences to some of the conventional methods of such analysis. Then I will explain how it address gaps in planning, design and research and the wider implications of this type of mapping. I will conclude with some of the limitations of this mapping.

Figure 6-31 Examples of spatial analysis conducted for MEI and WEI. The complete and larger format of these illustrations will be provided in the Appendix V



6.3 A reflection on Mapping Multiplicity of (in)justice

As discussed in the previous section, Mapping Multiplicity allows to map conditions as well as differences or similarities among different groups and communities in the way they experience (in)justice. The Mapping Multiplicity method allows for the study of any type of relation (causal and non-causal), thereby making the analysis more accessible and easier to carry out, which in turn enables its usage in everyday design and planning practice, which ultimately broadens the application of this mapping and the research of (in)justice.

To be able to map the causal relation similar study groups need to be formed as a first step, and then all the elements for these groups need to be similar and only one element (treatment) should be varied so that the differences that emerge can be attributed to the one varied element (treatment). This cause-effect studies are successful in controlled environments used in natural sciences such as chemistry or physics (for studies conducted in a laboratory) and are possible but less effective in sociology and psychology (e.g. study of (in)justice) where multiplicities of factors are involved and numerous cause-effect relations are produced, making it difficult or even impossible to single-out one effect which can ultimately lead to losing the unified vision of how society functions or interacts.⁴⁹

The relational analysis in Mapping Multiplicity not only allows to map the information generated through the experimental methods (controlled setting), but also to study relations where it is impossible or very difficult to use controlled and artificial settings (e.g. social setting with multiple factors). Therefore, relational analysis can help to extend the research to map all relating qualities of a phenomena. From the MEI and WEI examples mentioned above it is possible to conclude some properties of relational analysis:

- It is useful where it is necessary to find relations among various qualities in different disciplines.
- It enables the study of many relations simultaneously, thus producing analytical and global information about the subject of the study.
- It can be used for qualitative and quantitative data.
- It is suitable for the study of heterogenous aspects or groups where it is not possible to create controlled laboratory environments or homogeneous groups.
- It uses 'a posteriori' controls and enables the development of diagrams that can reproduce the complexity (multiplicity) of natural phenomena.
- In the case of mapping (in)justice it enables to create and study very different collectives (assemblages) while preserving subjectivity and individuality of the participants.

These properties of relational analysis in Mapping Multiplicity allow to work directly on the study field, without the need for using artificial settings and controlled environments that are often difficult to create in city. This allows for a more affordable, easier and more accessible research and thus enables the mapping of (in)justice to be incorporated in the everyday design and planning practice.

⁴⁹ Albert Mills, Gabrielle Durepos, and Elden Wiebe, 'Relational Analysis', in *Encyclopedia of Case Study Research* (2455 Teller Road, Thousand Oaks California 91320 United States: SAGE Publications, Inc., 2010), <https://doi.org/10.4135/9781412957397.n292>.

In this way Mapping Multiplicity can be used as a complementary program next to GIS, PPGIS and analysis programs such as SAS and SPSS. All these programs use quantitative metrics, they provide a variety of statistical analysis, including co-relation and ANOVA (analysis of variance), to find relations and contrasting relation (difference) in data sets. SAS and SPSS are for the most part used in statistical and quantitative analysis while GIS and PPGIS are mainly used for spatial analysis and, since they are developed for economic, physical and spatial analysis, they are subjected to the same standards of collecting quantitative data.⁵⁰

The example of the programs' relational analysis provided in the previous subsection illustrated differences (variance) between two assemblages (MEI & WEI); the equivalent quantitative analysis referred to as ANOVA represents the variation among and between groups. The differences between ANOVA and relational analysis used in the program is that ANOVA is a parametric statistical test that requires quantitative data and randomized groups with a normal distribution of data.⁵¹ Compared to this, relational analysis uses non-parametric tests that work with both quantitative and qualitative data, does not necessitate normal distribution of the data set, and does not require randomized or homogenous groups. Thus, relational analyses as used in the Mapping Multiplicity program are generally more efficient in producing results and easier to use.

In social sciences it is often difficult to create or find similar or homogenous groups. If we take the example of this thesis, there are no multi-cultural neighbourhoods matching the criteria of 'least deprivation (affluent)' to study, suggesting that there are for example very few Middle Easterners in affluent neighbourhoods, making them statistically insignificant for ANOVA. Since there are few or no groups (insignificant), homogenous or similar groups cannot be created and therefore the differences between white European and Middle Eastern residents who both experienced injustice disappear in the ANOVA analysis, while the relational analysis is capable of illustrating these relations.

The risk of not seeing relations while they exist is extremely high when using ANOVA, since it can only be used effectively when groups are correctly randomized and the inner variance within groups is low. If this is not the case, only the most noticeable and strongest differences will be identified.⁵²

Quantitative analyses as such were born in mathematical fields such as astronomy and physics where they are used to study quantifiable mechanical laws and deterministic (cause-effect) phenomena. The takeover of social science through statistics (study of probabilistic law) by mathematicians underlies a deep confusion of abstract mechanical systems with the complexity and multiplicity of life. It is extremely difficult or even near to impossible to study social phenomena in an abstract and completely controlled environment.

Moreover, to run ANOVA (and in fact any other quantitative analysis) it is necessary to translate textual data to abstract, representative numbers (for example 0=male, 1=female). The program only recognises numbers to run the analysis. To produce result the program aggregates this data and also the results are provided in numbers that need further interpretation and translation to textual code.⁵³

⁵⁰ Statisticssolutions.com, 'ANOVA (Analysis of Variance)', Statistics Solutions, accessed 29 September 2017, <http://www.statisticssolutions.com/manova-analysis-anova/>.

⁵¹ KENNETH STEHLIK-BARRY, 'Accessing and Organizing Data', in *DATA ANALYSIS WITH IBM SPSS STATISTICS*. (S.I.: PACKT PUBLISHING LIMITED, 2017).

⁵² Girden, *ANOVA*, 3–6; 'What Are the Limitations of ANOVA in SPSS?'

⁵³ STEHLIK-BARRY, 'Accessing and Organizing Data'.

The results show the relation and their significance, however they do not provide any visible or graphical illustration of how for example every community or individual is represented within this analysis. In contrast to this, in Mapping Multiplicity there is no need for translating the input data into numbers. The relational analysis that is visualised in the diagram shows (through lines) every connection and relation between assemblages and strata, making it visible and therefore possible for the researcher to view all the possible outcomes. In this way the program makes sure that individuals and communities for example can be viewed and even makes further (even unintentional) exploration of the relations possible. Thus, regarding just city development the visual characteristics of the map can also complement existing quantitative metrics with visual representations of 'soft' data, therefore offering opportunities for representing individuals' subjective and qualitative data in a practical and meaningful way that is graphic rather than abstract and numeric.

Quantitative methods that are used in positivist approaches, require repeatable data in order to be able to generalize the result for all similar settings. In general, conclusions in this method are reached based on more than one study; only the data that can be reproduced proves the significance of the results. When a multiplicity of qualities and factors is involved and inner group differences are high (e.g. communities with a diversity of conditions and values) this repeatability is lost.⁵⁴ One way to achieve the required results is to create homogeneous groups and remove data that causes such disturbance in the data set.⁵⁵ This often leads to omission of minorities who have very different values compared with the average data gathered or they can be considered statistically insignificant and be disregarded in order to create homogenous groups that represent the majority of the population.

Mapping Multiplicity is aligned with the critical realism approach. It provides a platform that maps the multiplicity of qualities while recognising individuality and diversity of communities and inhabitants without exclusion, flattening and reduction in representation. The mapping program acknowledges the situatedness of local conditions and attempts to represent it with all its complexity and as such it is not the repeatability of data and generalizability of results that is being sought (although it has this potential as well).

Mapping Multiplicity attempts to create a bridge, allowing for qualitative data to be analysed and presented in its complexity alongside quantitative methods, without transforming it into abstract representative numbers –it provides a soft, visual context for a purely numerical and mathematical approach. Mapping here is a critical practice to conduct research on social and cultural together with physical qualities, that questions the use-value of city space rather than legitimising development processes (like PPGIS), challenges existing power relations between city developers/planners and residents, and question single-perspective approaches in creating policies and plans. By offering easier, low-cost and more accessible research on the experiences of (in)justice it attempts to become part of everyday designing, planning and decision-making processes.

⁵⁴ William Lawrence Neuman, *Social Research Methods: Qualitative and Quantitative Approaches*, 7. ed., Pearson new internat. ed, Pearson Custom Library (Harlow: Pearson, 2014), 204–6.

⁵⁵ Peter J. Rousseeuw and Mia Hubert, 'Robust Statistics for Outlier Detection: Robust Statistics for Outlier Detection', *Wiley Interdisciplinary Reviews: Data Mining and Knowledge Discovery* 1, no. 1 (January 2011): 73–79, <https://doi.org/10.1002/widm.2>; Michael R. Smith, Tony Martinez, and Christophe Giraud-Carrier, 'An Instance Level Analysis of Data Complexity', *Machine Learning* 95, no. 2 (May 2014): 225–56, <https://doi.org/10.1007/s10994-013-5422-z>.

6.3.1 Addressing gaps in different sectors

The above illustrated the Mapping Multiplicity program and its relational analysis, which attempt to expand the mapping of the qualities explored in previous phases to a larger context and to address the gap identified at the outset of the research. To city architects, urban designers, planners and city decision-makers the program provides multi-scaled and multi-layered mappings of social and spatial data. It offers the opportunity to map individuals, their different experiences and spatial context, so as not to lose sight of individuals' subjectivity within aggregated data –as it often happens in quantitative approaches. It offers a more affordable and easier solution for conducting analyses in diverse social settings, allowing for a wider use of the mapping and therefore addressing the issue of (in)justice in a wider context. By incorporating inhabitants' experiences and identifying the qualities that influence experiences of (in)justice from their point of view, this mapping can complement current quantitative approaches to create a (more) complete picture of how, where and by which communities (in)justices are experienced in the city. To the residents of the city, it offers opportunities to actively join or create assemblages (communities). These assemblages in return can facilitate collective initiatives to demand needs to be met or to resist social injustice. It therefore offers the possibility for a proactive engagement of inhabitants in the just development of their city. I elaborate these aspects in the following.

For city architects, urban designers, planners and city decision-makers:

It creates multi-layered, dynamic and collaborative maps of the city, based on its inhabitants' experiences. The program contrast with the conventional approaches, that fail to recognize diversity of communities based on their race, gender, ethnicity and so on, tend to unify marginalized in a single category and view individuals as universal and atomistic actors, assuming that interests are only defined by people's economic position therefore attempting to address (in)justice only through economic means or quick infrastructural fix. To complement these approaches, the program enables to represent relations among social, cultural and spatial qualities of different communities and individuals and makes it possible to illustrate and analyse the differences in their needs, conditions, activities and experiences.

These may refer to (in)justices rooted in social issue (e.g. lack of recognition, discrimination, lack of safety, trust among neighbours or community activities,) or refer to demands for better quality spaces and new urban features (such as expansion of public spaces, recycling facilities, infrastructure and transportation) or better services (e.g. kindergartens, better schools and amenities). Mapping Multiplicity provides situated knowledge for planners, designers and city decision makers enabling them to make informed decision tailored for the particular demand of a community.

Another benefit of this approach is that regeneration and development can become affordable when only what is necessary is developed targeted for the community it addresses while unnecessary development are avoided. The advantage is a higher chance of success and a higher use-value than exchange-value since investment and development is more situated to local needs rather than focused on developers' profits.

There are some examples of regeneration and development programs for instance in Sheffield that are even left unfinished by the developers due to lack of affordability, even though there is a high

demand for housing in Sheffield and the UK.⁵⁶ Developers in many cases are only concerned with the exchange-value and from their perspective, projects are justified if they increase economic gain. Their plans and decision-making process do not consider particular local needs instead they are based on pre-determined stages of design, market research and profit return instead of their social impacts, which in turn, leads to a disregard of peripheral and deprived neighbourhoods.

It is within this context that I propose an alternative, more locally situated, mapping tool, which aims to map differences in needs and represent unjust conditions, therefore allowing for the targeted development of what is particularly needed for a particular community and in this way to move toward addressing uneven development and unjust conditions. Here mapping is considered a critical practice to conduct research on social and cultural together with physical needs, while questioning the value and use of city space. Mapping here challenges existing power relations between city planners and residents, by challenging expert led and single-perspective approach in creating policies to tackle injustice and uneven development (e.g. only through distributive factors). The purpose of this mapping therefore is to become a method that can be employed within participatory and alternative planning and design processes, with a focus on just urbanism.

By bridging between subjective qualitative and quantitative data it can help create a more overarching understanding of the social, political and spatial conditions. Mapping Multiplicity can complement the flattening and reductions that often occur e.g. in order to create controlled setting, or homogenous and randomized groups for the quantitative methods (such as ANOVA) by representing complex relations in social phenomena such as (in)justice, where a multiplicity of qualities are involved and a diversity of conditions and values exist.

Moreover, the visual characteristics of the map (representing individuals, their assemblages and relations) can provide a visual context for the quantitative analysis. This was an important feature for some of the designers, researchers and students (users to whom I introduced the map), that they viewed as a potential way of complementing current quantitative analysis with visual 'soft' representations of the abstract data. While they considered experiential data to be a significant aspect in the mapping and analysis of the city that requires consideration, they also acknowledged a lack of tool that can make their significance visible to the designers and policy-makers. Therefore, using Mapping Multiplicities as a complementary process can enrich quantitative processes and propose new metrics to currently missed themes related to (in)justice and inequality in cities.

Therefore, the main difference between mapping multiplicity of injustice with quantitative or statistical analysis is the attempt to reinforce individuality, subjectivity and quality in mostly quantitative approaches.

It allows for cheaper, easier and more accessible research on social, political and spatial (in)justices and uneven development. I have developed this program also with the aim to provide an accessible tool for small design and planning offices, grassroots groups, activists, artists and so on; particularly those in developing countries (e.g. Iran where I come from). Due to the fact that the program is free and open source, works with subjective data gathered from residents and uses relational analyses (e.g. does not need controlled settings which require higher budget), it can be

⁵⁶ 'Unfinished Housing in Parson Cross "an Eyesore"', *BBC News*, 1 August 2012, sec. Sheffield & South Yorkshire, <http://www.bbc.com/news/uk-england-south-yorkshire-19076888>; Helen Pidd, 'Housing Crisis: 15,000 New Manchester Homes and Not a Single One "Affordable"', *the Guardian*, 5 March 2018, <http://www.theguardian.com/cities/2018/mar/05/british-cities-developers-affordable-housing-manchester-sheffield>.

useful for design, planning and research groups that have small budgets, do not have the resources to purchase data or suffer from a lack of accurate and trustworthy official data or lack expertise and facilities to conduct comprehensive research, particularly in small or local projects.

For example, the Royal Institute of British Architects (RIBA) shows 76% of 2797 chartered practices have fewer than 10 people.⁵⁷ Mapping Multiplicities can provide a more accessible solution for site survey and analyses by allowing all firms to conduct budget research on issues of injustice it will more easily become part of the routine design process. By making research and analysis more accessible through the program for a wider user groups, it can become possible to expand the analysis of (in)justice as part of every design/planning process. By continuing to converse about (in)justice, and expanding related analyses, this topic can become central to the activity of planning and design and therefore start to change popular discourse and enlarge the boundaries of action. Additionally, as mentioned above, local developments can become more affordable due to the fact that the programme points out what is particularly demanded by the community and thus uneven development and injustice can be addressed in the local environment.

Furthermore, I have developed this program while keeping an eye on developing countries (e.g. Iran where I come from). UNDP reports⁵⁸ many developing countries increasingly suffer from growing injustices. While redistribution plays a very important role in the reduction of inequality, it is ever more important to consider political and socio-cultural injustices (recognition) to tackle issues of injustice. Many of the planning and design firms in these countries have small budgets and suffer from lack of accurate census data or expertise and facilities to conduct (comprehensive quantitative) research, particularly for small or local projects.⁵⁹ Many of the firms conduct their own site analysis⁶⁰, largely focusing on merely physical characteristics of the site as initial phase of the planning and design process. Using relational analysis of Mapping Multiplicity can massively benefit addressing injustice (or any other socio-cultural phenomenon) by providing a more accessible and easier solution for the analysis, making social dimensions and issues of (in)justice to become part of every design process. In this way injustices can be widely addressed by providing subtle, easy, local and targeted interventions.

Moreover, being developed as an open source program, it is possible to connect mappings of individual groups (who use this program) to create a larger network of maps with extended data. This can provide greater understanding of how (in)justice is experienced in different parts of cities, countries and world. While this network can provide macro-scale information, it also contains particularities of each area. Such information can help to provide situated solutions, relieves and aids to be specified to their needs. Subsequently, it can become possible to create a depository of various

⁵⁷ SU Butcher, '76% of Architects Practices Are Fewer than 10 People', *Just Practising*, 25 February 2010, <http://www.justpractising.com/its-about-money-stupid/76-of-architects-practices-are-less-than-10-people/>.

⁵⁸ UNDP reports the increasing inequality in developing countries. For further information please see 'Humanity Divided: Confronting Inequality in Developing Countries', UNDP, accessed 27 September 2017, <http://www.undp.org/content/undp/en/home/librarypage/poverty-reduction/humanity-divided--confronting-inequality-in-developing-countries.html>; Caelainn Barr, 'Inequality Index: Where Are the World's Most Unequal Countries?', *The Guardian*, 26 April 2017, sec. Inequality, <http://www.theguardian.com/inequality/datablog/2017/apr/26/inequality-index-where-are-the-worlds-most-unequal-countries>.

⁵⁹ Most of these firms are small compared with their international counterparts. From personal working experience in Iran, the urban design and planning firms conduct personal site survey and analysis as the necessary stoning step for the design. However, the physical aspects (e.g. road size, block size, pedestrian size, topography and etc.) are the only aspects included in the analysis while socio-cultural issues (for the most part) are ignored.

⁶⁰ Most firms only have data gathered directly from residents.

solutions and proposals; and can also promote a culture of cooperation (even cross-national) among different groups and initiate wider discussions on how to tackle the diversity of unjust conditions.

Mapping Multiplicities can be a beneficial tool for community-based projects, for example community-led developments, housing cooperatives, cohousings and any other project that could benefit from identification, creation and working with communities.⁶¹ Assemblages created in Mapping Multiplicity can illustrate moments of agreement and conflict among individuals. By identifying common values shared among residents it becomes possible to gather people under these shared values for a common good. The program can be beneficial for community-based projects as it allows similarities to surface that might otherwise have stayed hidden. By identifying existing communities and providing the capacity to grow or represent potential communities that were not realised before, the mapping can be considered propositional, suggesting the creation of such collectives.

Moreover, it is possible to create new community projects that do not exist yet, may have been overlooked or were not recognised previously, but, on the basis of assemblages in the maps, can now be created. For example, Middle Eastern parents in Highfield can create a community for taking care of children (they ask for better childcare facilities) or share and growing food in their neighbourhood. Thus, Mapping Multiplicity can become a hub that allows for the exploration and creation of communities and the development of spaces and services in the common interest or resist unjust treatment through collective initiatives. In this way Mapping Multiplicity can help projects that have bottom-up strategies when looking to explore possibilities to introduce a network of residents to create, manage and use facilities that can serve common needs, thus enhancing the capacity of urban resilience.

For the residents of the city it offers proactive residents' engagement in the 'just' development of the city. The website would provide access to the map for the residents. which enables interaction of residents with the map and sharing of experiences. The visual characteristics of the map would offer opportunities for connecting users who share similar experiences of (in)justice, values, ideas or concerns, thus enabling residents to connect with other individuals and communities (assemblages created as the result of the map).⁶² By making assemblages visible the map can reveal shared ideas and concerns as well as shared experiences of injustice. In this way not only can it raise awareness but it also allows for residents to connect and discuss issues otherwise difficult to raise or for people to meet based on shared concerns who might not have been able to meet or enter into a conversation otherwise. These interactions among residents can transform into proposals, petitions or movements to resist⁶³ (un)just treatments and encourage to take collective actions to demand improvements that are meaningful for their community.

⁶¹ For example, communitylandtrusts.org.uk, 'National CLT Network', accessed 27 September 2017, <http://www.communitylandtrusts.org.uk/>; 'NaCSBA - The Voice of the Custom and Self Build Sector', accessed 27 September 2017, <http://www.nacsba.org.uk/>; The Oxygen Agency [ukcohousing](http://ukcohousing.org), 'UKCohousing.Org', UK Cohousing Network, accessed 27 September 2017, <https://cohousing.org.uk/>.

⁶² One main reason for many people to join social networking services (SNS) such as Facebook and Twitter is to connect and share with other people. For more info please see Petter Bae Brandtzæg and Jan Heim, 'Why People Use Social Networking Sites', in *Online Communities and Social Computing*, Lecture Notes in Computer Science (International Conference on Online Communities and Social Computing, Springer, Berlin, Heidelberg, 2009), 143–52, https://doi.org/10.1007/978-3-642-02774-1_16.

⁶³ The rhizomatic and horizontal connection among users in SNS sites also assists the resistance (e.g. movements in Middle Eastern countries in 2011) by connecting and allowing communication among people within resistance communities. For more info please see MASAKI YADA, 'Rhizome and Contemporary Art', accessed 28 September 2017, <http://masakiyada.org/EssayRhizome.html>; Sabiha Gire, 'THE ROLE OF SOCIAL MEDIA IN THE ARAB SPRING | Pangaea

Enabling residents to introduce new qualities, and therefore new assemblages, can enrich the understanding of (in)justice and allow for the map to evolve and the rhizome to further grow. In this way mapping becomes a continuous process of evolving and engaging residents in the design, planning and decision-making and together in creating and implementing a shared vision for a just city.

As an educational tool for architecture and urban design students, it provides a comprehensive analysis tool whilst raising awareness on social conditions and (in)justices occurring alongside physical and spatial analyses. The Mapping Multiplicity program provides easy and time-efficient analyses of socio-spatial phenomena. It can be used as a resourceful method to provide socially aware field analyses (a micro-scale research) for students.

As part of the design tutoring team in the M.A. Urban Design (MAUD) course at the University of Sheffield, I introduced Mapping Multiplicity as a mapping and site analysis tool, offering three out of the twelve groups to use the mapping program for their analysis. After three-hour workshops, the students easily adopted the mapping and applied it in their project. The mapping helped them in achieving a more organised and comprehensive approach to site analysis. The quality table (based on the findings of the first two mapping phases) provided them with a thorough list of attributes, making them aware of some aspects that other groups often missed. Moreover, running the analysis assisted them to find a variety of relations among these different qualities, creating an overarching map of communities (assemblages), potential communities and the social and spatial needs of these communities, which informed their planning and design responses. Mapping the space of (in)justice in this way can increase awareness on social, political, spatial aspects and the relations among them when producing space. This can also lead to a more socially conscious and comprehensive approach to design and planning.

6.3.2 Addressing potential limitations

In addition to discussing how Mapping Multiplicities can address some of the gaps in research, practice and education, I will also elaborate on some of the potential limitations of the mapping platform. Some of these issues can be addressed through conducting further fieldwork with a larger number of participants, while others need further examination.

First of all, the physical space that is mapped and represented is external -it is public or semi-public. It was out of the scope of this research to step into private and internal spaces. However, as discussed previously, (in)justice is multi-scaled.¹ A limitation of the study is that time and cost constraints meant that the fieldwork conducted for this study only considered urban spaces. While Mapping Multiplicity has the potential to map the micro scale as well, this was not addressed within the scale of this study.

Second, the number of the architects and urban designers who can use a particular software program can represent an additional limitation of who can use the analysis. I have developed the prototype of the Mapping Multiplicity program with Grasshopper (a visual programming language) as part of the

Journal', accessed 28 September 2017, <https://sites.stedwards.edu/pangaea/the-role-of-social-media-in-the-arab-spring/>; 'World Development Book Case Study: The Role of Social Networking in the Arab Spring -- New Internationalist', accessed 28 September 2017, <https://newint.org/books/reference/world-development/case-studies/social-networking-in-the-arab-spring/>.

Rhinoceros 3D (Rhino). Rhino has become one of the most popular software packages used by architects, which allows for a large number of people being able to use the program. Nevertheless, not all designers use this program. One possible way for a more inclusive approach is to migrate from this platform to HTML, which allows to run this program through an internet browser, making it possible to be used by everyone.

Third, geo-location used to provide the spatial (urban) context represents a sensitive issue. The participants were anonymised in this research and the accuracy of the urban context is in the range of 5-6 buildings. However, there is also the possibility of adding GPS data and more accurate geographic positioning for the mapping if participants are willing to provide such information. However, there are negative implications for such technologies, for example surveillance⁶⁴, which can discourage residents from participating in the mapping. Transparency regarding the reasons for conducting such research, data ownership and anonymity of users can be some of the ways to tackle these issues. The participants should have the option to withdraw at any moment from the research and delete all their information used in the mapping. There is also the possibility to use information without being able to track back the data to the participant, e.g. by not providing any names, addresses or contact details. Even without these details, the other information can nevertheless be significant as regards how (in)justices are experienced by different communities, albeit without knowing where exactly the experience took place.

Fourth, if the mapping is used as data mining tool for profit businesses residents might be discouraged to share their information in the mapping. The analysis can illustrate needs and gaps in the development of the neighbourhood (e.g. lack of commercial or international supermarkets) and it is possible that businesses can abuse these gaps to create for example a monopoly for some of the much-needed services. It is worth mentioning that most of the aspects mapped here are deficiencies experienced by people and investment or any provision of these deficiencies can eventually lead to addressing (in)justice. However, the mapping should be an ongoing process to allow for these issues to be raised again if they are not resolved after such developments took place (e.g. if provided services are too expensive or inaccessible for the resident to use, meaning, they are still experiencing (in)justice and are therefore expressing it through the map). It is also necessary for city decision-makers (e.g. the city council) to put an end to such misuses and make sure that people receive something in exchange (honour their demands) while engaging in the process.

Finally, Mapping Multiplicity is a complementary mapping method. It provides a more affordable and easier method of running social analysis that allows to create a more thorough view of (in)justice situated in the local settings. Its purpose is to illustrate and point out the aspects that are often missed in such analysis. It is not however created as a competitor or replacement of larger quantitative tools (e.g. GIS, SPSS, SAS) and should not be treated as such but rather as a complementary program. The fact that mapping here is produced as an opensource program allows for adaptations and tweaks of the program. This makes it possible to be used in the wider context and under a variety of conditions and to accommodate other types of analysis.

⁶⁴ Mike Crang and Stephen Graham, 'SENTIENT CITIES Ambient Intelligence and the Politics of Urban Space', *Information, Communication & Society* 10, no. 6 (December 2007): 789–817, <https://doi.org/10.1080/13691180701750991>.

7 Conclusion

The research presented in this thesis concentrates on the mapping of the relationship between residents, their experiences and the city as a way of exploring (in)justices and enabling decision makers to make informed decisions toward achieving a more just city. In particular, it concentrates on using digital and computational means to map social, political and spatial conditions. The programme developed through this research aims to bring social aspects that influence inhabitants' experience of (in)justice into digital and technological methods of mapping injustice. This mapping enables the expansion of the overall mapping method to the larger scale of the city for a better and more situated understanding of how, where and by whom (in)justices are experienced.

This chapter revisits the research process and mapping methods to see how they addressed the research questions. It starts with an outline of the qualities that were explored during the mapping process and informed the mapping program. This is followed by a section about the methodological and conceptual contributions of the mapping methods and the Mapping Multiplicity program developed as the result of this research and their broader contribution. This chapter concludes with a suggestion for future developments.

7.1 A look back on the research process

I started this research with the broad aim of exploring a way towards achieving a more just city. Mapping emerged as a useful focus for its potential to explore and provide situated knowledge. The research, therefore, adopted a mapping practice through which it became possible to explore and map the qualities that influence the experiences of (in)justice in everyday life of residents. By doing so, it expands the current digital mapping and planning paradigms to not only focus on distributive approaches and quantitative methods but also to include diversity in experiences and misrecognition, thus dealing with the political and social qualities that influence the experiences of (in)justice.

A comprehensive review of the literature was provided in Chapter 2, where (in)justice was discussed through various political and philosophical approaches. On the basis of these approaches, different formulations of what constitutes a 'just city' were presented, and some of the gaps in current approaches were discussed. This was further complemented by a review of various methods of mapping in Chapter 4, which also highlighted the way in which diversity of experiences and subjective qualities were often overlooked and marginalised and excluded subjects were disregarded in contemporary technological and digital mapping programs.

Against this backdrop, an important gap was identified in relation to current approaches to developing a just city. This gap can be outlined in two points: first, there is a gap within the digital tools used for the mapping of injustice in cities, which often neglect the socio-cultural conditions of inhabitants: the digital mapping programs use the distributive approach (arguably the predominant paradigm) and attempt to address (in)justice mainly through economic and distributive processes, and often disregard socio-cultural aspects. This approach not only fails to recognise the difference and diversity of experiences that people with different backgrounds endure but also its positivist

stance uses quantitative methods, which often results in a disregard for minorities and negligence of marginalised and silent groups. Second, the theories and policies that demand recognition of difference do not provide specificities and situated knowledge that is necessary for the type of everyday judgements that designers and planners have to make.

The lack of a mapping program that can bring specific social aspect into the digital mapping of injustice and the negligence about particular social qualities and aspects that influence inhabitants' experiences of (in)justice result not only in difficulties in incorporating people's real needs into plans and policies but also in a subsequent possibility of unjust development. This lack of recognition and situated knowledge, located in the context of the just urbanism, and with the aim of providing a method to explore, map and provide such information using qualitative and digital means represents the focus of this research. In order to address this gap, the research set out the following questions, which reflect the mapping methods undertaken:

- How can the perceptions of inhabitants based on experiences of (in)justice in the city be mapped?
- What are the qualities that influence inhabitants' experiences of (in)justice in urban neighbourhoods?
- What kind of a digital tool can facilitate the mapping of these qualities in the wider context of the city?

With the aim of addressing the gap, a methodological approach was developed in Chapter 3, based on the feminist stance of this research. Three neighbourhoods in Sheffield were selected as case studies to provide context for a multi-method research process that was conducted through three phases of mapping. Through an extensive review of relevant concepts, precedents and techniques in Chapter 4, each phase of mapping was formulated in order to create a multi-method mapping practice capable of viewing the issue at hand from different angles.

In every phase of the research, the city was mapped through a participatory process, which aimed to map (in)justice from the subjective viewpoint of residents. Each phase of mapping offered a new perspective, ranging from individual/personal to group and collective, and therefore, each phase broadened the viewpoint and contributed to a process of creating an overall picture of how (in)justice is perceived and experienced by inhabitants of the city. The qualities and themes that were explored in phases 1&2 were presented in Chapters 5 and then used for development of Mapping Multiplicity, which was explained in Chapter 6. An overview of the research process is provided in Table 7-1.

Chapter 5 outlines the first two phases of mapping. The first phase was conducted via 'Storytelling Maps' focusing on the experiences of (in)justice through individual perspectives of inhabitants. Storytelling was presented as a sense-making process through which people organise and transmit to others their everyday life experiences and create meaningful relations. In this way, storytelling gives access to internal mental processes and provides a framework to explore elements of the human psyche as well as complexities and subtleties of human experiences and the way a person perceives the world. For these reasons storytelling was used as a method to map and explore the

themes and qualities that influence inhabitants' experiences and the way they comprehend (in)justice in the city.

Table 7-1 The three phases of the research process.

Phase	Where	When	How many	Insight/Outcome
<p>1. Storytelling</p> <p>-One-on-one Storytelling process with open-ended questions. This method offers flexibility to explore themes and qualities and only occasionally the participant was asked for more clarification and elaboration of some of the aspects.</p> <p>-Each conversation typically lasted between 15 to 45 minutes.</p>	<ul style="list-style-type: none"> · Sheffield city centre (the Moor Street, Fargate, Peace Gardens) · Highfield Square (Highfield) · Margetson Cres (Parson Cross) · Hight St (Dore) 	3 weeks in June 2015	64	<ul style="list-style-type: none"> -Exploration of general themes and some of the outlining factors that influence the experience of (in)justice in Sheffield. -Allowed for a self-displacement of the mapper/ designer/ planner and thus allows to define and identify qualities of (in)justice from the viewpoint of the people who are actually experiencing it in their daily life. -Mapping the experiences of injustice from the individual and personal viewpoint of inhabitants.
<p>2. Map Art</p> <p>-Collective map making and group discussions as a supplement to individual stories in the previous phase. By concentrating the discussion on one theme for each mapping practice, it is possible to expand the topic further and explore other qualities that might have been missed previously. Inhabitants feel more likely to express grievances and injustices in a group as they feel 'safer' within a collective environment.¹</p>	Sheffield city centre (Union Street)	6 Days in July 2015	96	<ul style="list-style-type: none"> - List of qualities expanded on the basis of general themes explored in the previous phase. These were then further contextualised and complemented by reviewing the literature to conclude a thorough list of qualities that informed the development of Mapping Multiplicity. ² -Resulting themes and comprising qualities were also used to create a questionnaire which produced the data to be used in the third phase. - Map Art artefacts each represent the way residents perceive (in)justice in different areas of the city. - Group interviews and discussions that took place around the map making process, i.e. the mapping of experience of (in)justice through the multiple angles that participants brought to the conversation.
<p>3. Mapping Multiplicity</p> <p>-A survey questionnaire distributed in case study areas (based on the list of qualities that were identified in the previous phases)</p> <p>-Program coding and testing</p>	Three case study areas: Highfield, Parson Cross, Dore	3 weeks in Sept 2015	201	<ul style="list-style-type: none"> - Development of the digital tool that can map the multiplicity of the qualities explored in previous phases. - An example of mapping MEI & WEI in Sheffield (case study sites) was provided using the survey data.

The individual, one-on-one process of phase 1 was followed by the collective approach of 'Map Art' in phase 2. Map Art serves two purposes: first, it is a way to experiment alternative ways of eliciting and representing subjective data; the artefacts produced through the collaborative mapping process of Map Art represent the way the city is perceived by participants through various themes and qualities that were explored in the previous phase. Second, the artefacts used served as intermediary tools to trigger conversations and discussions among participants over these themes and qualities. Thus, in this phase, the personal perspectives of stories are replaced by group, multi-angle views. Phase 2, therefore, provided the overall methodology with further in-depth discussion and exploration of qualities that influence inhabitants' experience of (in)justice by obtaining contrasting viewpoints that often arose due to the participants' diverse social, political and cultural values.

Storytelling and Map Art, both methods of mental mapping, were used to map the city as perceived by people and to explore themes and qualities that influence residents' experiences of (in)justice in

¹ Rob Kitchin and Nicholas J. Tate, *Conducting Research in Human Geography: Theory, Methodology and Practice*, First issued in hardback (London New York: Routledge, 2014), 215.

² The detailed explanation of insights and qualities are discussed and tabulated in *chapter 5*. An extensive discussion on research process is provided in *Chapter 3/outlining research phases*.

the city (Sheffield). Then these themes and qualities were listed in a table of qualities that was used as the basis to develop a tool in the 3rd phase.

On the basis of the conceptual framework provided in Chapter 4, and insights gathered in phases 1&2 in Chapter 5, a program named 'Mapping Multiplicity' was developed and proposed in the 3rd phase. Chapter 6 represents this method, which attempts to broaden the overall mapping of (in)justice in this research to a wider context. For this purpose, the qualities that emerged in the discussions during the previous two phases were turned into a questionnaire that was used to survey the three case study areas. While surveys come with certain limitations (e.g. lack of flexibility), the highly qualitative and subjective methods used in the first two phases provide the overall mapping method with the necessary flexibility and openness to explore and discuss the subjects in depth. Therefore, using the survey and the Mapping Multiplicity program allows for a level of repetition and generality to be introduced through which the overall mapping process could be broadened.

Moreover, the Mapping Multiplicities program was conceptualized and developed with the aim to bring social aspects into the digital mapping of (in)justice and complement current approaches by means of incorporating qualities and aspects that emerged from engaging people's local knowledge and the various ways they experience (in)justice based on their class, ethnicities, race, gender and so on.

This program enables designers, planners and decision-makers to obtain a better understanding of (in)justice, one that is more situated in the local context and which recognises the difference in experiences and how they vary in different neighbourhoods. In this way, the overall mapping process, and in particular the Mapping Multiplicity program can become a method employed not only in just urbanism but also within participatory and alternative planning and design processes.

7.2 Research findings: explored themes and qualities that influence inhabitants' experiences of injustice

This section combines the themes and qualities that emerged by undertaking the mapping process summarised above. These findings answer the question "What are the qualities that influence inhabitants' experiences of (in)justice in urban neighbourhoods?" by using Storytelling and Map Art as a way of eliciting and representing data on inhabitants' experiences of (in)justice and their perception of it and by developing a tool on how such information can be mapped in the larger scale of the city neighbourhoods.

7.2.1 Storytelling & Map Art: a summary of explored themes and qualities

The mapping experiments conducted at the outset of the research process offered useful understandings of the overall (in)justice experienced by inhabitants. The mapping findings not only confirmed the postmodernist views of Young and Fraser that differences must be recognised and

(in)justices should be addressed through both recognition and distributive approaches,³ but they also complement these approaches by providing an extended list of qualities⁴ that are more situated in the local context (of Sheffield) and should be considered by designers, planners and decision-makers in mapping when addressing (in)justice in the city.

In the following, I provide a brief summary of these interlinked qualities, the complete explanation and discussion of which are provided in Chapter 5. These different qualities are clearly intertwined and mutually affect one another. Therefore, there is no binary or single relation between a quality and a theme, but for the sake of explanation, I shall deal with them separately.

Physical and spatial theme

Participants' perceptions of what constitutes physical qualities that are unevenly distributed in the city were the starting point of the mappings. A number of positive and negative physical qualities were brought up by participants as some of the factors contributing to whether or not an area was perceived as deprived, under-developed or affluent, including: physical *attractiveness* of the neighbourhood, which was perceived through the amount of and access to green space and trees in the neighbourhood; *visual complexity*, encompassing architectural design as well as quality of building materials and landmarks (e.g. participants referred to the fact that many of the city neighbourhoods lack distinctive landmarks and that even some landmarks in the city centre lack quality); and *density* of the area was also raised by residents and understood often through the size and type of the building (e.g. tower block, terraced, semi-detached, detached housing) and the population of the area.

Another essential aspect often mentioned was the *maintenance* of the neighbourhoods, covering, besides the general level of cleanliness, the quality of the infrastructures, public spaces, the condition of roads, pavements, façades and windows. Dirty streets with broken pavements, uncollected rubbish and graffiti not only discourage residents from using public spaces, have a bad visual impact and a negative influence on health but also imply that nobody cares. Furthermore, some qualities that emerged in the discussion were not purely physical but related to the services that were provided in the neighbourhood, including amenities, services, shops, restaurants and pubs; affordability of such services, as well as accessibility to them through good and affordable transportation, also influence the quality of the neighbourhood. *Mix-use* and *multifunctionality* were likewise considered as aspects making a neighbourhood lively, while mono-functional areas (e.g. only residential or industrial zones) were perceived as "boring" or even "unsafe" during particular hours of day. Not only can a mixed-use approach create a just living environment by providing residents with their needs but it can also increase people's presence in the neighbourhood throughout the day and consequently it can increase the feeling of safety, while at the same time having a positive impact on the local economy.

The above aspects were discussed by the participants as qualities that affluent neighbourhoods hold and deprived neighbourhoods lack, and whose uneven distribution in the city was considered as

³ For further information please see Chapter 2

⁴ The lists of these qualities are presented in Table 5-1 that can be found in Chapter 5

unjust. Such differences in quality were thought to exist between the east side of the city (with mostly deprived population) and the west side (affluent population).

Since many of the conversations pointed to socio-cultural aspects (especially in phase 1) rather than physical aspects, it is safe to assume that the perception of a neighbourhood was more shaped by that neighbourhood's residents, activities and events and the overall social context and less by physical qualities, unless they were in a visibly very bad condition.

Political and economic theme

Inequality was often brought up in relation to experiences of (in)justice and was viewed in different ways. Sheffield as a labour city was in the eye of its residents often affected by exploitation, deprivation and unjust treatments. Closure of the steelworks, unemployment, repression of workers and unions has impacted the residents' memory as injustices that Sheffield has endured. Deprivation and poverty were considered as an outcome of such policies. Almost all the participants believed that deprivation and poverty in Sheffield have political and economic roots and hold governing organisations and neoliberal policies responsible for such injustices in Sheffield. Large income gaps, cuts in social welfare and benefits and exploitation of workers for the benefit of the rich were among the issues mentioned by participants as having a significant impact on deprivation and experiences of injustice among Sheffield residents. Additionally, tax avoidance by affluent individuals and corporations was raised in heated conversation as unjust. Thus, the governing organisations' responsibility for just distribution of wealth and goods through robust and fair *taxation* as well as effective regulatory mechanisms that can close the loopholes and ensure a fair contribution to social benefits were among the suggestions for ways to tackle deprivation and approach distributive justice.

Furthermore, some participants shared their personal experience of deprivation, poverty and economic difficulties, while suggesting that there is an excessive need to provide better opportunities to enable less fortunate to move up the social ladder. Therefore, low levels or lack of *social mobility* was considered to be of great importance and an essential topic to be addressed.

Moreover, many people stated that they felt they did not have the *power (voice)* and political influence to change the overall economic conditions and to impact the decision making, being under the impression that they were neglected or not being heard, even though some pursued their demands through *active political involvement*. It is important to acknowledge the significance of city inhabitants' role in co-producing a just vision for their city. For instance, in relation to planning, the discursive governance of decision-making procedures is, as argued in Chapters 2, essential for the development of more effective just policies. Notably, participation structures (and the city itself) need to be flexible and provide people with a 'right to re-appropriate' as Lefebvre demands, henceforth opening up questions about people's rights, their social welfare and injustices that take place due to neoliberal policies; policies that are fixated on increasing competitiveness, mainly focused on economic growth and driven by a desire to increase return on investment.

Development inequity was revealed as another quality. Some participants argued that it was unjust that certain neighbourhoods (e.g. Parson Cross), that were well known for their high degree of deprivation, were frequently the beneficiaries of regeneration and development projects despite the

fact that these efforts were repeatedly undermined by antisocial behaviour and vandalism, while other areas, i.e. those with a higher number of ethnic minorities such as Highfield (Sharrow) and some of the marginal neighbourhoods still remained neglected. Even though certain disadvantaged neighbourhoods in Sheffield received more public funding, this was not considered as a targeted support to deal with all localised issues. It was also believed that some of these funds directed to blanket social issues were not particularly appropriate for the diverse backgrounds of people living in multicultural neighbourhoods. There was a general consensus among participants that there is a need for a more localised control over public services and that the local authorities need to properly include the population in the process of designing and planning their own services.

Furthermore, residents from affluent areas believed that their neighbourhood was deteriorating due to unfair treatment by the local government through what they called 'positive discrimination' against them. Residents of these areas mentioned that this unjust behaviour was due to the *political inclination* of the Labour City Council toward deprived neighbourhoods while affluent areas (with a political affiliation to the Liberal Democrats Party) were ignored. In contrast, participants from less privileged neighbourhoods believed that not only was it easier for well-off areas to attract private investors but also that affluent residents had the social and economic capital to pressure local authorities for their demands. As also discussed in Chapter 5, higher levels of education, occupation status and income, as well as familiarity with procedures for applying for grants combined with a higher engagement with governing organisations, were argued to be attributes that enabled affluent neighbourhoods to be well represented and more noticed, thus enabling them to have their demands met. Contrary to this, residents with a lower status, and particularly residents with ethnic backgrounds, and with limited capital who are less vocal about their issues and less knowledgeable about the processes and means to pursue their demands and are thus somewhat underrepresented or neglected.

As was pointed out by participants, the experience of (in)justice is also shaped by the political-economic context of the contemporary society — a structural inertia and therefore difficult to change.⁵ Indeed, changing the government's rhetoric is beyond the scope of this research; however, it shapes the context in which people's perceptions, experiences and actions develop. Thus, it is essential to map the perception of people toward the governing organisations, their active involvement in shaping the political-economic context and pursuing their demand for a more just city.⁶

Social theme

In terms of social theme, it can be observed that people with a different *identity* (e.g. national, ethnic or religious identity) have different experiences of *discrimination* and *(in)justice*. The social dimension of (in)justice and experiences of discrimination can occur in a multitude of contexts, some of which (e.g. employment discrimination) are out of the remit of this study. Here I focused on the aspects that occur within the spatial framework of the neighbourhood and city.

⁵ Susan S. Fainstein, 'Planning and the Just City', in *Searching for the Just City: Debates in Urban Theory and Practice*, ed. Peter Marcuse and James Connolly, 1st ed. (Routledge, 2009), 19–39.

⁶ David Harvey, *Rebel Cities: From the Right to the City to the Urban Revolution*, 2013, 67–88.

Lacking a *sense of community* among residents can influence and proliferate experiences of (in)justice. In general, Sheffield was perceived as a friendly city by most participants. This was related to the sociability and supportive attitude of Sheffield residents. Undeniably, social relations, especially weak ties among neighbours, have an impact on the way communities were regarded. Not all neighbourhoods received the same positive reactions however. Participants distinguished communities based on the positive and negative interactions among neighbours as well as the type of social activities taking place there (e.g. supportive neighbours and community or anti-social behaviour). The city was regarded as a mosaic of various communities which are linked through different networks of families and friends. Some of them are more inward-looking and form strong but more closed communities that do not *tolerate and recognise* outsiders who do not have the same values. This lack of acceptance and inclusion in the neighbourhood can increase the perception of (in)justice (of recognition) among people who do not share similar socio-cultural values.

Participation in social activity, co-operation and kinship had a positive impact on the way a community was viewed while at the same time generating trust, safety and a *sense of place attachment*, which as discussed in Chapter 5 eventually contribute to a more cohesive and just neighbourhood. Facilities and leisure spaces that enable social interaction, such as community centres and social activity programs, as well as safe, good quality public spaces and recreational places (e.g. pubs, restaurants, shops) were perceived as necessary by participants to enable the shaping of a strong, lively and just community environment.

Trust and perceived safety were two fundamental qualities that often emerged when discussing (in)justices in different neighbourhood communities. Economically deprived communities, as well as neighbourhoods with a higher number of ethnic minorities (e.g. Parson Cross and Highfield), were perceived as unsafe by some of the participants. However, the residents of these neighbourhoods often protested that there was a degree of misjudgement about such communities and although there was a consensus that there was some degree of undesirable behaviour, conducted by a small number of people, this should not be extended to the whole community. Residents pointed out that positive social interaction, mutual trust among neighbours, reciprocity in providing support and help in moments of need can increase the feeling of safety among residents (e.g. taking collective action to reduce anti-social behaviour in collaboration with city authorities in Parson Cross.) Indeed, as was also discussed in Chapter 5, collaboration among residents can generate trust and a sense of safety, which in turn can further lubricate cooperation, and together these qualities can lead to higher social cohesion and achieving a more just society.

However, as it emerged multiple times in the discussions, there was a degree of misrecognition and lack of trust and cooperation among residents with diverse ethnic backgrounds. Not all residents experienced positive social interactions in their neighbourhoods. Bigotry, harassment and anti-social behaviour lead to a marginalisation of those who do not share similar social and cultural values.

Tolerance and recognition of diverse social and cultural values manifested themselves as essential qualities that recurrently emerged in relation to the experience of (in)justice and discrimination. Almost all participants agreed that there was a cultural division between more marginal neighbourhoods in Sheffield on the one hand, where one ethnicity is dominant (e.g. white working class in Parson Cross), and which were perceived as not welcoming to others, and, on the other hand, multicultural areas located closer to the centre of the city (e.g. Sharrow (Highfield)). Ethnic minorities

(mainly Middle Eastern in this experiment) most often shared their experience of discrimination, verbal harassment, name-calling and mistreatment, not only by the urban community but also on the educational and professional level, which shattered their *sense of place attachment, sense of identity and sense of community*. Therefore, to achieve a just city, it is important for the residents to be able to identify themselves as part of the community that they perceive as home and for their social and cultural values to be recognised.

Moreover, it often emerged that ethnic minorities were mostly in contact with people of their own ethnicity and trusted mainly their own community rather than others. Knowing individuals' *priorities* can be beneficial for understanding how important family, friends, neighbours, work or religion are for residents and the degree to which these priorities impact their activities and relations in the neighbourhood. As also discussed in Chapter 5, trust, social connections, social interaction and community collaboration appear to be generally lower in multicultural neighbourhoods than in monocultural communities. However, these qualities were not a prime concern in multicultural communities (although they are favoured) but rather *weak ties, tolerance, acceptability, inclusion and micro-politics* are more relevant for a harmonious coexistence in a just society.

These themes and qualities that emerged in the first two phases of mapping showed that (in)justices are not fixed to distributive and economic factors, but are multilevel and interdisciplinary. They are formed by many interlinked factors, which go beyond spatial and infrastructural elements of the city, even if inclusive of those. Thus, it became clear that no one measure can, on its own, contribute to the radical changes needed in order to truly achieve a more just city. The issues are multiple, complex and require a collection of integrated and situated approaches rather than a reductionist perspective of infrastructural measures or short-term economic fixes that the distributive approach offers.

Nevertheless, being (or becoming) conscious, civically-minded and engaged in addressing (in)justices appear to be equally important, and potentially achievable through facilitating pedagogy and civic life-long learning opportunities. Accordingly, acknowledging factors other than spatial or infrastructural (as proposed by distributive approaches), is therefore essential when designing, planning and developing policies aimed at changing the ways people live their lives and achieving a more just city.

7.2.2 Mapping Multiplicity: an example of relational analyses

The previous two phases of mapping illustrated that the issue of (in)justice is complex and multi-layered and consists of a multitude of interlinked themes and qualities. As discussed in Chapter 3, the aim of phase 3 was to develop a digital tool that can bring social qualities into the mapping of (in)justice. In addition to developing the program, I have also used it for an example (presented in Chapter 6) so as to reconfirm and expand the outcomes of the previous phases whilst ensuring that the program was working.

Mapping Multiplicity represents (similar to rhizome, the conceptual basis of the program) relations among different qualities. Each respondent is captured under these qualities (which can have various political, social or spatial properties) and becomes part of different collectives depending on his/her responses, values and opinions. For this research, the qualities were defined based on the findings of

the first two phases, i.e. the qualities stand for different social aspects of experiences of (in)justice. By defining and applying the qualities in this way, Mapping Multiplicity is being subjected to represent relations among these experiences of (in)justice in the city. In this way, the program acknowledges individuality and diversity, recognises the differences in the way (in)justice is experienced and provides the spatial context of where the experience took place.

A description of the various features of the program and how it contributes to the mapping of (in)justice was provided in Chapter 6 and will also be briefly discussed in the next section. In this subsection, I will summarise the findings that resulted from running the relational analysis of the program, which I named 'one strata' and 'two strata'. This was an example provided to represent how the Mapping Multiplicity program functions. It is possible to create various analyses for different collectives in the program. The data used in this analysis was gathered through the survey conducted in the case study neighbourhoods.⁷

One strata analysis simply enables the user of the program to illustrate the relationships between a chosen quality to all other qualities. These qualities are visualised in the program from the most related to the least related. For this example, I chose to visualise the analysis of the difference between individuals who experienced injustice (EI) and those who did not experience injustice (NEI). Some of the identified differences include:

EI experience discrimination more, even though they actively took action to avoid it. The diagram also showed that EI incline toward strongly agreeing that the distribution of wealth should be achieved through heavy taxation of the rich. At the same time, they believed that it was unlikely to move up the social ladder (social mobility). For EI leisure time has a higher priority, while friends and neighbours are less important than for NEI. EI are in need of improvements of public and green spaces, recycling facilities, and façades and ask for more facilities for community activities, whilst NEI do not require such improvements; instead, NEI are in need of an expansion of public transportation.

With one stratum analysis we only represent the IE and NEI. This analysis does not provide additional information on the groups within these assemblages, for instance how people with diverse ethnic identities experience the city and (in)justice differently. To represent more situated information in the analysis and find relations more specific to a community (assemblage) two strata relational analysis can be used. Simply put, in two strata analysis the relationship between two simultaneous qualities and all other qualities is visualised. Building on the previous example, which represented assemblages of participants who identified as having experienced injustice (IE), the second quality of 'ethnicity/race' was added to the creation of the assemblages. Then it was analysed how different ethnicities experience injustice differently.

Since in phases 1&2 the Middle Eastern community emerged as the one with the most examples of experiences of (in)justice, I chose to focus on how they experience injustice differently to the white population (who are arguably the dominant culture in the UK). In this case, the first quality (strata) was 'people who experience injustice' and the second quality (strata) was 'race/ethnicity'. The mapping would thus represent differences between Middle Easterners who experienced injustice

⁷ As mentioned the questionnaire was produced on the basis of the qualities explored in two previous phases. Further information is provided in Chapter 3 and Appendix VI

(MEI) and white Europeans who experienced injustice (WEI). A summary of these findings is presented in the following:

In terms of the political-economy theme, WEI are more opinionated and take stronger positions while more actively pursuing their demands compared with MEI. As it is illustrated in Chapter 6, WEI strongly agreed that differences in income in the UK were too large and that it was the responsibility of the government to redistribute wealth (for instance by heavy taxation of the rich) and provide a decent standard of living for the economically disadvantaged, while MEI took much milder positions on these issues ('somewhat agree' or even 'disagree'). WEI are more actively involved in perusing their demands (for example through demonstrations) than MEI. Moreover, the majority of WEI took action against discrimination, while MEI took less or no action. However, to avoid discrimination MEI responded that they do not hide their identity, while WEI were divided. Furthermore, most MEI believe that the British give equal opportunities to all white Brits but not necessarily to the British of Middle Eastern ethnicity. Finally, the majority of WEI expressed cynicism toward governing organisation and believed that they have no influence on decision making, while MEI were equally divided in this matter.

In terms of social qualities, while family is equally very important for WEI and MEI, leisure time and neighbours are more important for WEI than MEI, while work and religion are more important for MEI. We can further observe that caring less about friends and neighbours among MEI also becomes visible in the trust strata, where WEI mostly trust their neighbours while MEI 'Do not know' if they can trust their neighbours and do not feel safe in their neighbourhood, which relates to the fact that they experience unjust behaviour more often. As discussed previously in Chapter 5, trust facilitates cooperation among residents of a neighbourhood and, in a reciprocal manner, mutuality and collaboration help to create more trust which results in higher social cohesion. Furthermore, I have argued that cohesion among neighbourhoods can enable recognition of different values among people and thus create a more just space. Thus trust, safety, reciprocity, interaction, social cohesion and just space create a rhizome. Less trust in and lack of knowledge about their neighbours shows that MEI are living in a more isolated environment than WEI and have less interaction and connection with their neighbourhood community. Even though MEI and WEI both equally agree that residents in their neighbourhood are accepting and welcoming to people of diverse backgrounds, MEI are inclined toward 'less likely' or 'do not know' if their neighbour would help in case of need or take action against anti-social behaviour compared with WEI that are inclined to very likely.

To further explore differences in the physical qualities of the MEI and WEI, and to put the participants in their urban context, the physical (and spatial) 'bodies' of the mapping were used. WEI on average are surrounded by more green spaces, and the streets are better maintained (e.g. less litter, better pavement and road conditions) while MEI's environment has a higher number of the shops and mixed-use land uses and better accessibility to the city centre (more and more frequent bus lines). This could be due to the fact that MEI mostly live in higher density neighbourhoods (30.1 households per hectare) with mostly terrace houses compared with WEI (17.9 HHpH) who mostly live in semi-detached houses. Thus, another area of difference is that WEI, on average, live in bigger block sizes than MEI.

It was further illustrated that, although MEI (unlike WEI) would not avoid going to certain public places and are more willing to use them, they do not enjoy taking walks in their neighbourhood. This

is, as shown, related to two factors, for which they ask for improvement: quality of the public spaces and safety of their neighbourhood (which was also related to the lack of trust and interaction with their neighbours). Moreover, although some WEI would prefer to live in another neighbourhood, MEI take a much stronger position in that they would rather leave their neighbourhood. On average, MEI have less sense of place attachment, less sense of community and less sense of safety compared with WEI. This was illustrated to be related to social aspects, such as lack of trust and understanding, exclusion and (un)just behaviour as well as physical aspect such as lack of a good quality physical environment, including public places.

This example of the analysis provided above can be extended to all different assemblages (created as a result of the map). There is a multiplicity of options available to conduct the analysis and provide targeted and situated information and accordingly localised solutions for each community (assemblage). Since the mapping illustrates a dynamic record of inhabitants' social experiences within a spatial context, it is also a means for determining actions within such a context. Thus, the diagrams not only map the similarities and variances of experienced injustice but also possibilities and opportunities of how to address these demands. They act as tactics for understanding unjust space, comprising political-economic, social and cultural layers, and together representing the way the city is inhabited.

The outcomes of Mapping Multiplicity summarized above not only confirm the insights that were gained in the phases 1 & 2 but also complement and expand them. In this way, Mapping Multiplicity proves to be a capable tool to bring social aspect into the digital mapping of (in)justice and expand subjective and qualitative approaches in the wider context of the city.

In the following, I will explain the overall mapping method and the Mapping Multiplicity program and their contribution to closing the gaps identified in this thesis.

7.3 Methodological and conceptual contributions: experimentation on blending social, subjective qualities and digital/technological mapping

The overall mapping process and particularly the Mapping Multiplicity program represents an important aspect of originality of the thesis. The main contribution of this research is the developed Mapping Multiplicity program which brings socio-cultural aspects into the digital mapping of (in)justice and allowed looking at the research gap from different angles. Qualities, events and conditions that influence the way people experience (in)justice change depending on their political, social and spatial condition and therefore there is a necessity to discover these qualities based on their situated context. From this perspective, it is essential to engage people in the process of map making.

The maps represented in this research emerged from employing methods that put social aspects and people's subjective experiences into the digital mapping. A quality that is ever more missing in contemporary digital practices with a particular positivist approach toward mapping of (in)justice

which praises objectivity (often defined from the point of view of power) and quantitative metrics (that flatten the heterogeneity that arises from diverse viewpoints and the intangibility of individual experiences and often disregards minorities and marginalised).

The methodological and conceptual contributions consist of the experimental nature of the overall mapping method, which combined various viewpoints, from individual to collective, and various methods of enquiry and presentation, from storytelling and art creation for map making to digital and computing methods, in order to create a bricolage of methods and kaleidoscopic view toward (in)justice.

An important part of this approach was the combination of social, qualitative and subjective qualities with digital and technological methods as a way of eliciting and representing data on inhabitants' experiences of (in)justice in the city. This process was undertaken at two levels:

Storytelling and Map Art

The first two mapping methods take a more qualitative approach to explore the themes and qualities that influence experiences of (in)justice. These mappings offer methods that are radically different to conventional distributive and positivist methods taken in mapping (in)justice, which disregard and overlook the qualities and different values that exist in everyday experiences of inhabitants and which are overly obsessed with the accurate graphical representation of quantitative measures.

For subtle experiences and qualities to surface, I proposed Storytelling as a method. Storytelling was explained as a sense-making process through which people organise and transmit their everyday life experiences to others and create meaningful relations. Storytelling gives access to internal mental processes and provides a framework to explore elements of the human psyche, complexities and subtleties of human experiences and the way a person perceives the world. Thus, Storytelling was proposed as a method to map and explore the qualities and aspects that influence inhabitants' experiences and the way they comprehend (in)justice in the city. Not only is the narration of stories a way to communicate information and experiences, but the process of telling a story is also cathartic and pleasant for both teller and listener which enables a close connection between them.

Another method that was introduced is Map Art, which challenges traditional methods of cartography and the related power structures by questioning conventional modes of enquiry and representation, moving instead towards a critical understanding of the world. Map Art, was proposed as a dynamic, enacted and collaborative method. It involved observing, discussing, participating and performing around the map making process. Therefore, Map Art is created in a social context. People are not merely subjects of a mirror-like representation but become part of the mapping process. Moreover, using the map as an intermediary tool to engage citizens in a social, interactive context helps to understand how spaces are constructed in their minds and in which ways they are experienced by people. The interactive process encourages people to share more easily their views and experiences and to engage with similar or contrasting opinions, thereby creating results that are collections of various subjectivities. Bringing all of these together creates a Map Art that reflects the diversity of our societies and offers insights for planners, architects and decision-makers.

Storytelling and Map Art were therefore proposed as suitable methods to inquire about, collect and map subjectivities and experiences of (in)justice, thus adding subjective qualities that are missing in the positivist approach of quantitative statistical data.

Moreover, both methods encourage a practice of self-displacement. To map (in)justice in the city it is necessary to take the position of the one who experiences it. Being present in the moment, trying to understand and see through the eyes of those who have been marginalised can enable the mapper, the researcher or the designer to practice and learn how to displace him/herself and keep his/her ego in check. In this way it becomes possible to explore qualities and factors in their full extent from the perspective of the other; qualities and factors that might have been missed holding a godlike, voyeuristic, top-down viewpoint of the traditional cartographer, designer, planner and decisionmaker. These experiences leave their traces in the memory and subjectivity of the mapper and can be just as significant in exploring the aspects that influence the experience of (in)justice as other more quantitative metrics.

Other practices of Storytelling and Map Art

While I use alternative methods such as Storytelling and Map Art for exploration and self-displacement, they are not just limited to these particular purposes but can be used for many others, for example, to bring people together or learn from one another. In the following, I will discuss other practices (some of which were carried out in Sheffield) where these methods can be employed to benefit both the planner and the inhabitants.

One example is Jake Barton's 'City of Memory',⁸ which invites New York residents and visitors to share their stories about the city and uses digital methods to pin these stories to particular places around New York.⁹ Barton attempts to link space and memories, and in doing so making these memories come alive. In this way, he strives to enable people to share their memories among each other. In contrast to Barton's people-to-people approach, I use storytelling as a way to extract information and get a better understanding of how residents experience (in)justice in the city and to use such information to inform the mapper, planner or designer. Another difference is that the connection between the people in City of Memory is passive and indirect, and only takes place by typing, pinning your memories and reading the ones of others on the map, while in my map the participants directly narrate and express themselves to the mapper, allowing for a close connection between teller and listener.

A comparable method to Barton and my approach is conducted by Brendan Stone in Sheffield; *Storying Sheffield* is a project under the patronage of the University of Sheffield's School of English. It brings together undergraduate students and inhabitants from disadvantaged backgrounds of Sheffield to work and study together through storytelling and other creative means to learn more about life and living in Sheffield. The aim of the project is to tell and learn from stories of everyday life. By doing this together with others, connections are very often revealed, so "*the weave of the story*

⁸ For further explanation please see Chapter 4, Map Art.

⁹ John Krygier, 'Jake Barton's Performance Maps: An Essay', *Cartographic Perspectives*, no. 53 (1 March 2006): 41–50, <https://doi.org/10.14714/CP53.361>.

comes to embody a complex web of relationships and interdependence at the core of the self, while also preserving the uniqueness of each teller's perspective on and knowledge of the world."¹⁰

The project enables access to Higher Education for a broader group of people, while at the same time it offers the possibility for students to learn from locals through engaging over a wide variety of topics (e.g. history, architecture, design, concepts of identity, community work, to name but a few). In this way, both groups are offered new frames of reference.

Similar to the aim of my study, the project is based on the premise that creative engagement can be a form of research and that it can contribute to enhancing people's knowledge. The project recognises that the narrative is an essential part of the formation of human identity, yet for some, it is difficult to identify themselves as one coherent narrative. To address this, the project tries to produce and collect different fragments, that represent different aspects of one's story. Another essential aspect to the development of identity is the environment, be it physical, cultural or social.¹¹

Comparable to Barton's City of Memory, the project's website¹² collects the stories that resulted from this work. But the project does not only focus on written narratives but also includes different formats of expression. One example for this is 'Material Stories of Migration'. In a workshop, asylum seekers and new arrivals worked with students, artists, poets, musicians, filmmakers etc. around the topics 'home', 'family', 'journeying' and 'arrival', keywords that people from all different backgrounds can relate to. Participants got engaged in creative writing, painting and craftwork. The aim is to create value for all – for the participants, a sense of belonging and community can be created while through this form of co-production insights are gathered into the situation of migrants, which can help the work of those, that provide support to vulnerable groups in Sheffield. The project's impact assessment revealed that it had a positive impact on the well-being and sense of belonging of the participants and has increased the understanding of marginalised groups and their everyday life. It also helped develop relevant City Council policies for sustainable communities.¹³

Another research project related to *storying Sheffield* is named 'Imagine', the short title for '*the social, historical, cultural and democratic context of civic engagement: imagining different communities and making them happen*'. The project contains a broad spectrum of smaller projects which studied how communities connect people and what role imagination plays when communities come together seeking change and pursuing a different future. As was already outlined, marginalised communities are often excluded from decision-making processes and civic engagement. The Imagine project wanted to address this through a number of partnerships that would encourage discussions among and within different communities. The project was divided into four workstreams:

- Social: this workstream focused on young people who are faced with challenging situations, often in relation to their mental health. The findings underlined the relevance of methodologies and partnerships based on art when trying to support them.
- Historical: this workstream studied how perspectives on civic engagements can change throughout time. The outcomes demonstrated the critical role art plays in fostering inter-

¹⁰ Brendan Stone, 'Storying Sheffield | About Storying Sheffield', accessed 9 September 2018, <http://www.storyingsheffield.com/about/>.

¹¹ Brendan Stone, 'Storying Sheffield | Principles and Ideas', accessed 9 September 2018, <http://www.storyingsheffield.com/about/principles-and-ideas/>.

¹² See: Brendan Stone, 'Storying Sheffield | A Cloth Woven of Stories Told', accessed 9 September 2018, <http://www.storyingsheffield.com/>.

¹³ Brendan Stone, "'Storying Sheffield': Transforming Welfare and Attitudes through the CoProduction of Narrative. (Impact Case Study)' (University of Sheffield), accessed 10 September 2018, <https://ref2014impact.azurewebsites.net/casestudies2/refservice.svc/GetCaseStudyPDF/12211>.

generational learning. Another finding was the importance for people belonging to certain communities to be able to reclaim their own histories.

- Cultural: this workstream looked at ways to develop longer-term relationships and legacies that would positively influence community unity. The findings showed the importance of existing community knowledge, which deserves recognition and appreciation.
- Democratic: in this workstream community researchers and historians worked together, focusing on historical knowledge and thinking. The results revealed that communities can make their needs heard and seen through different outputs. Co-productions are seen as a way to connect grassroots activity and cultural institutions.¹⁴

The cultural stream of this research, which is led by Kate Pahl, focuses on Sheffield. Their research sought to understand communities not through traditional means of survey or focus group but through a variety of art projects and creative methods. For example, one of the projects in collaboration with Site Gallery, Sheffield, focused on the ways in which art practice can be involved in the realisation of imagining and co-producing a better future. Next, the project attempted to revisit Park Hill in collaboration with Museums Sheffield. In their process at first, a picture of everyday living, domesticity and how the residents interact with the building and the space was built through interviews with stakeholders, residents and people with memories of the old Park Hill. Then, through models, visual imagery and drawings, the residents were enabled to discuss the space, and the aesthetics that they lived in. Through these processes, the research aimed “*to distil the essence of its [Park Hill] power and weakness as a place to live.*”¹⁵ From this project, a film was commissioned and shown in the galleries in Weston Park Museum, Sheffield.

The practices above demonstrated the possibilities of using storytelling and art not only as a research method but also for pedagogical purposes, to bring people together, to create communities and take collective action to imagine and build a better future.

Another comparable research project to my approach is a study on the public perception of *Beauty*. The Commission for Architecture and the Built Environment (CABE) and the Arts and Humanities Research Council (AHRC) commissioned the Ipsos MORI Social Research Institute to conduct a study into public attitudes on beauty, which they envisaged would invite inhabitants to talk about the quality of their local environment and start discussions on how people can influence this environment. Sheffield was identified as a suitable city to conduct this research as it has undergone significant change in recent years in an attempt to make the city more beautiful.

In order to gather their data, they used three phases, starting with ethnographic interviews (ethnographic approach) and discussion groups (qualitative approach) that were hosted in Sheffield itself, while a nation-wide omnibus survey (quantitative approach) was conducted to provide context to the findings of the first two phases. Although the research process of increasing the scale of inquiry is similar to my approach, they used traditional research methods to collect data. It can be argued that using creative methods such as Map Art can be more beneficial to topics such as beauty.

¹⁴ University of Sheffield and Kate Pahl, 'The Social, Historical, Cultural and Democratic Context of Civic Engagement: Imagining Different Communities and Making Them Happen.', accessed 1 September 2018, <https://gtr.ukri.org/projects?ref=ES%2FK002686%2F2>.

¹⁵ Kate Pahl, 'Imagine | The Cultural Context', accessed 2 September 2018, <http://www.imaginecommunity.org.uk/the-cultural-context/>.

This grouping into individual – group – national applied to the data gathering methods can be found again in the way the question ‘Does beauty matter?’ was put into context: the researches asked what beauty means for individuals, places and communities and society.¹⁶ The results revealed that there were differences, sometimes even contradictions, in the findings of each phase making it difficult to generalize. The researchers concluded that “*public attitudes to beauty are very dependent on the time and context in which beauty as a subject matter and as a reality is encountered by people.*”¹⁷ They noticed for examples that only after spending a longer period of time with people did they start to go deeper into the subject matter.

Similar to my findings in the Storytelling phase (discussed in Chapter 5), they concluded that for individuals, beauty is a positive, more emotional than visual, experience that creates happiness and wellbeing. Common associations with beauty according to their importance were nature, memories, happiness and appreciation. It matters where and when beauty was experienced and how comfortable people feel in that environment. Participants in the research were of the opinion that everyone should have access to beauty regardless of the economic standing but acknowledged that internal (within the person) and external (environment) barriers exist.

Comparable to my findings in the Map Art phase, for places and communities, i.e. the built environment, beauty was perceived as an essential factor and something that should be enhanced. It is acknowledged that beauty is not evenly distributed – it is a distinguishing factor between a deprived and a popular neighbourhood. Old buildings are generally seen as more beautiful than modern buildings as history and memory appear to be important factors in how a place is perceived. Once again, being able to experience beauty is affected by the ability of people to feel comfortable in that space. “*Hence when there is a shared history, feeling of community and pride in a place, people are more likely to say they experience beauty there.*”¹⁸

Participants did not immediately see the value of beauty to society. It became more apparent to them when talking about their physical environment and how this affects their wellbeing and contributes to a ‘better society’. However, the research found that there is a generational difference in how the value of beauty in society is perceived. While younger generations are focused on their own access to beauty, older generations are concerned with preserving local beauty for generations to come. “*Participants recognise that they judge, and are judged on, where they live and their physical surroundings, as well as where they spend time.*”¹⁹ Improving a place, instead of building a new one, can create better experiences for people and they will thus be perceived as more beautiful. While it is recognised that there is no overall authority responsible for creating or enhancing beauty, many people see at local authorities play a lead role.

One of the challenges that was brought up by the research with such a subjective topic is that public attitudes toward beauty are often contradictory and depend on many factors such as time, context and culture. “*Beauty is received as both an ‘abstract’ and ‘familiar’ concept. It is understood and appreciated by people on different levels dependent on time, setting and mindset*”²⁰

¹⁶ Ipsos MORI, ‘People and Places: Public Attitudes to Beauty’, 2010, 3–9, <https://www.designcouncil.org.uk/resources/report/people-and-places-public-attitudes-beauty>.

¹⁷ Ipsos MORI, 15.

¹⁸ Ipsos MORI, 5.

¹⁹ Ipsos MORI, 5.

²⁰ Ipsos MORI, 15.

It is precisely for such subjective matters that I have developed Mapping Multiplicity. Justice, just like beauty, is subjective and includes many qualities, with residents having their own attitude toward what defines (in)justice. Mapping Multiplicity can provide a useful tool for qualitative studies similar to the ones above. It provides a platform that maps the multiplicity of qualities while recognising individuality and diversity of communities and inhabitants without exclusion, flattening and reduction in representation. In the following I will further discuss this tool.

Mapping Multiplicity

The development of the Mapping Multiplicity program draws on the extensive research conducted and presented in this thesis. Insights gathered in previous phases of mapping as well as precedents and conceptual frameworks discussed in earlier chapters were all considered in the development of the Mapping Multiplicity program, with the aim of bringing social qualities into the digital mapping of (in)justice.

The themes and qualities that emerged in the first two phases of mapping showed that the issue of (in)justice is not fixed to distributive and economic factors but is multilevel and interdisciplinary, suggesting that the issue entails a complexity and multiplicity that can best be mapped by using technological means.

Examples provided in Chapter 4, including Deligny's tracings of autistic children, aaa's relational maps of communities, groups, devices, and places as well as Lombardi and Bureau d'Etudes' power lines that expose the manifold relations among political, economic and social forces all demonstrate how the notion of line and relationality, as theorized by Deleuze and Guattari, can offer a mapping of multi-layered, complex or even heterogeneous aspects. Therefore, in order to avoid the reductions and flattenings that sometimes occur when using such technological means and for Mapping Multiplicity to accommodate the representation of this multiplicity of qualities, heterogeneity and complexity, the notion of Rhizome, relationality and line were used as the conceptual basis of the program.

On the basis of this concept, the Mapping Multiplicity program is composed of various lines (i.e. individuals) that constitute assemblages of different parts that have the capability to represent relations between various, even heterogeneous, qualities, fields and disciplines and display the political-economic, social and spatial milieu of inhabitants and the collectives that are created based on their similarities and differences. In doing so, it can (unlike other digital mapping counterparts, e.g. GIS, PPGIS) incorporate various social qualities and aspects that emerge from engaging people's local knowledge in order to represent different ways (in)justice is experienced by inhabitants based on their class, ethnicities, race, gender and so on.

Bringing these different angles together and representing the multiplicity of the relations between the social qualities of (in)justice in a traditional architectural representation - that is familiar for architects and urban designers - is what the program address.

The Mapping Multiplicity tool was developed as an open source program. The program produces the visualisation automatically once the data sheet is opened, but it is possible to reconfigure and customize certain aspects manually.

The program consists of various bodies and lines. Each line represents a person (participant) that responded to the survey. Whenever participants provide the same answer to a question they create a group of lines called 'assemblage', which represents a group of people sharing a common value, response or opinion related to each quality. The mapping program then represents relations among these assemblages.

Individual lines or groups of lines (assemblages) can be connected to different bodies. Bodies consist of various information and maps. They primarily provide physical and spatial context for individuals (which are represented by lines). Some of the bodies used in this program are²¹: MSOA map of Sheffield which represents census data and the location of participants; an urban plan map (OS) of the participants with various layers which provides the urban context of the individuals' neighbourhood; a superimposed satellite image on top of the OS map that can represent various street maps, shaded reliefs, boundaries and places, transportation as well as pollution imagery and infrared imagery for green space analysis; a layer illustrating street connectivity in the neighbourhood; a 3-dimensional model of the urban context; street views consisting of 4 pictures representing 360-degree view of the street.

Mapping Multiplicity recognises individuals (each person represented as a line) and represents the collectives that they form (assemblages created from the accumulation of lines) based on the similarities in opinion and values. In this way, individuals and their communities can be represented without a reduction in the representation and analysis.

By following these lines through different qualities²², the map represents how individuals become part of different collectives (within these qualities), and in doing so, the program illustrates the relationship between different qualities. These qualities can take various political, social or spatial properties. For this research, the qualities were defined based on the findings of the first two phases, i.e. the qualities stand for different aspects of experiences of (in)justice. By defining and applying the qualities in this way, Mapping Multiplicity is being subjectified to represent relations among these experiences of (in)justice in the city. In this way, they can be mapped in a broader context without losing the subjective diversity or individuality of each participant and the diverse communities (assemblages) that they form.

The relations represented through this mapping illustrate how these individuals and communities experience (in)justice differently based on their diverse social and cultural values. In doing so, this mapping can complement current digital mapping approaches, which mainly offer economic and distributive solutions to the issue of (in)justice, use quantitative methods to measure and address inequalities in the distribution of wealth (often resulting in flattenings and reductions) while often disregarding social qualities and accordingly the different ways people experience (in)justice.

The (in)justice that these approaches represent shows the quantitative difference of how much/many (multiple of one) of commodities are unequally distributed. The Mapping Multiplicity approach complements this quantitative approach by representing qualitative differences of (in)justice. The qualitative differences are a difference among the multiples or, in short, multiplicities. This is not the difference in scale but the difference in intensity, force, experience or relations. In order to represent

²¹ A full list of what bodies i.e. maps, layers and imagery were used is provided in chapter 6; the above is only a short enumeration to explain the nature of bodies.

²² These are questions that were created based on the qualities explored in previous phases.

the difference in quality or experience, the mapping recognises participants' subjectivities and individuality.

The mapping program achieves this, as explained above, by illustrating and recognising each individual, community and their relations. By doing so, Mapping Multiplicity can be used to complement quantitative methods (e.g. ANOVA, GIS and PPGIS), which lose the individuality of participants in their aggregated analyses and cannot accommodate heterogeneity of views, while having a tendency to omit minorities and marginalised groups that are often underrepresented or represented as insignificant in their analysis.²³

Moreover, as mentioned, Mapping Multiplicity includes various bodies, which provide spatial context (e.g. through layers of urban plans, images, MSOA, etc.) By connecting these bodies to the lines (representing individuals), the mapping situates individuals and their communities in their spatial context. In this way, it facilitates the identification of the particular needs of these communities, whilst providing the spatial context in which they take place.

Furthermore, developing the program as open source has a number of benefits: First of all, it enables connecting the analysis and outcomes of this mapping to other programs (examples of which are provided in Chapter 6), thereby opening up the mapping to include other data analyses and interpretations. Second, the program can be provided for free to grassroots groups, designers and planners who can benefit from it whilst encouraging them to take into account the various aspects of (in)justice in the everyday designing and planning processes and further expand the attempts to address (in)justice. Third, these groups and design offices can also contribute to the mapping, on the one hand by creating a more extensive data set and contributing to the overall project, thus creating a larger map of (in)justice, and, on the other hand, by tweaking the program, adding and refining various parts of the mapping, the program can be improved or be more adaptable for diverse conditions and various designing and planning needs. In this way, the mapping can evolve and grow horizontally.

Alongside the Mapping Multiplicity program, I propose a website concept. While the program is created to inform designers, planners and decision-makers, the website would provide access to the map for the residents. The website is also conceptualised as opensource, based on a Web 2.0 platform which enables interaction of residents with the map and sharing of experiences. The visual characteristics of the map website would offer opportunities for connecting users who share similar experiences of (in)justice, values, ideas or concerns, thus enabling individuals to connect with other individuals and communities (assemblages created as the result of the map). In this way not only can it raise awareness but it also allows for residents to connect and discuss issues otherwise difficult to raise or for people to meet based on shared concerns who might not have been able to meet or enter into a conversation otherwise. In doing so, users can further enrich the map by contributing their experiences and by creating communities (assemblages) of their own, allow for the map to evolve and the rhizome to further grow. Therefore, mapping becomes a continuous process of evolving and engaging residents in the design, planning and decision-making processes and together in creating

²³ Since they are developed for physical and economic science they are subjected to the same quantitative standards of collecting measured data, e.g. homogenous groups, normalised distribution and controlled environment. However, these methods and conditions are extremely difficult or even near to impossible to apply in social sciences, particularly in relation to issues such as (in)justice, where a multiplicity of factors is involved and a diversity of conditions and values exist. This often leads to omission of minorities and marginalised groups which are rendered as insignificant in the overall analysis. Further discussion on the differences and how the mapping program complements these methods are provided in Chapter 6.

and implementing a common vision for a just city. Moreover, by allowing users to introduce new qualities, and therefore new assemblages, the website map can not only enrich the view on the experiences of (in)justice but it also enables users to create new communities through which they can take collective action, resist (un)just treatments and demand improvements that are meaningful for their community.

To summarise, Mapping Multiplicity provides a platform that offers an alternative mapping, one that is more situated in the local context and, by incorporating local knowledge and recognising individuals and their communities, it represents subjectivity of inhabitants and acknowledges different ways they experience (in)justice, thereby enabling the identification of the particular needs of various communities, whilst providing spatial context.

In this way Mapping Multiplicity can complement current digital mapping with particular distributive approaches in order to create a more complete picture of (in)justices in the city and therefore it enables designers, planners and decision makers to make informed decisions, that are backed up by thorough research and that are more situated in the local context. Additionally, it provides citizens with means to create a vision for a just city by being continuously engaged in the process of resisting, creating and consequently moving toward achieving a more just city.

Therefore, this thesis suggests that achieving a just city is a process. From this perspective, the definitions and means to achieve a just city change depending on different historical and geographical situations, various political and economic conditions, social and cultural values as well as individual experiences. Achieving justice as a process means that there is a need for constant questioning, surveying, gathering and mapping all the different qualities, values and subtle experiences to be able to define and redefine what (in)justice is and provide a situated solution accordingly.

Other relevant practices to Mapping Multiplicity

There are other practices that are relevant to the proposed tool here. Mapping Multiplicity can be used alongside these practices, or they can mutually benefit each other. Here I will discuss some of these practices and compare them with my own proposed tool.

A similar approach to Mapping Multiplicity is used in a research project carried out by Albena Yaneva named *Mapping Controversies in Architecture*. She provides a number of examples (from the Sydney Opera House to the London 2012 Olympic Stadium) to show that architecture has to be seen as technical and social at the same time. The mapping controversies approach that she follows allows for a different, more holistic understanding of a building by including in the process its different phases and the various actors involved, thereby altering and widening the concept of “process”.

Similar to Mapping Multiplicity which represents the relations among qualities, Yaneva’s Maps are used to display the interrelation between the different actors involved across time. In this context “maps are not just representational tools; map-making and maps perform.”²⁴ One advantage of digital tools such as Mapping Multiplicity is that it enables the mapper and the map-user to remain in the

²⁴ Albena Yaneva, *Mapping Controversies in Architecture* (Burlington: Ashgate Pub. Co, 2012), 89.

process, and they are thus increasingly used to comprehend (and not only map) social phenomena. As discussed, in Chapter 4 my maps form a rhizome with the world, there is a parallel evolution of the map and the world. In this sense Mapping Multiplicity (similar to rhizome) is an immanent process.

In a similar line of thinking, Yaneva acknowledges the limitations of parametric modelling and the team around her thus worked with a company specialised in computational design to produce a mapping tool, creating what she calls “post-parametric” computation. Both parametric and post-parametric methods display how various, often heterogeneous, actors, their positions (both in time and space) and conflicting concerns together form and shape the controversy and it is thus possible to discover their relative importance over time. The advantage of the post-parametric visualisation is that it simulates reality, and thus “we do not know in advance how the actor-fields define the map. Whereas parametric models predetermine associations, ‘post-parametric’ modelling does not define relations to pre-determined parameters.”²⁵

This dynamic modelling method was used to map the controversies surrounding the London 2012 Olympic Stadium. Through following media coverage and publicly available documents the various actors²⁶ in the process were identified (based on the impact they were assumed to have on the process), and their relationship was mapped through ‘actorial diagrams’. Over time, the actors’ activities are traced and their interventions and effects on the process and each other are mapped and again put into relation with each other, the display of which requires the creation of numerous interactive diagrams. The post-parametric modelling made it possible to show this dynamic, to group actors according to their different concerns and to display different densities of groupings and changes in intensity and speed of the controversy. The programme is designed in a way that allows timely updates of the map as it is linked to primary web sources, which can also be accessed by the user.

One of the main differences between the two types of maps is that in the mapping controversies actors are grouped by their relations and floating in the space (Figure 7-1). While this can be useful in showing the groupings clearly and provide more freedom in interacting with the map, it lacks a clear flowing organisation that is needed to represent the change of time which is an essential element for mapping controversies. In this case

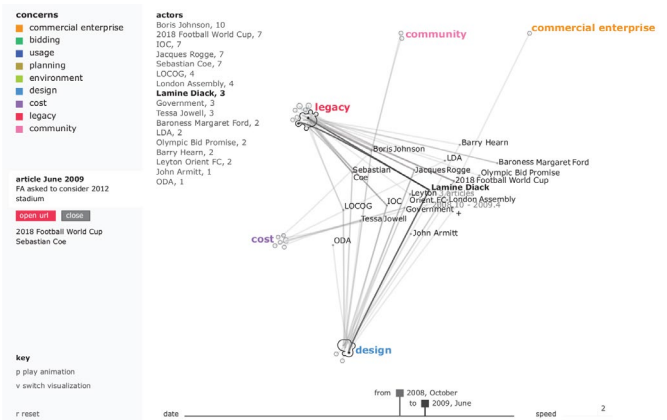
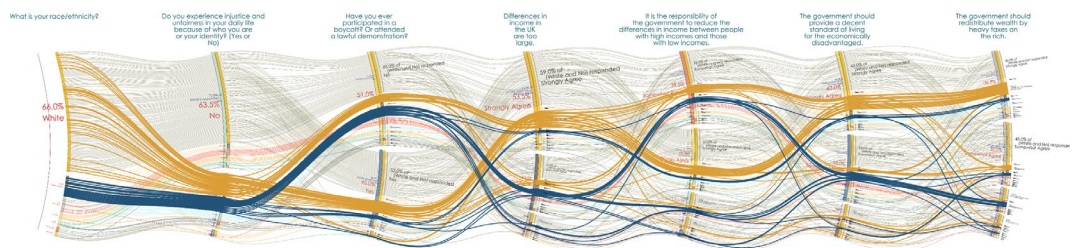


Figure 7-1. top: Simulation of the London 2012 Olympic Stadium controversy Source: Mapping Controversies in Architecture p.99 bottom: Mapping Multiplicity



²⁵ Yaneva, 99.

²⁶ Actors include not only refer to ‘human’ actors but to everything that influences the building process, e.g. costs, existing buildings, models, etc.

Mapping Multiplicity can be a good substitute because it not only provides the grouping of actors (in assemblages) and relations (via lines), but the way in which each stratum is organised one after the other can represent the way each actor takes/changes role in different moments and show the flow of time. This helps the organisation and legibility of the map since the human eye-brain system is better equipped to understand flow in a linear order. Another good example of a digital tool that uses the human eye-brain system, in this case for representing the differences between regions, is the cartograms created by Danny Dorling.

The Dorling's *Worldmapper* project depicts social and economic data of a given country in an unusual cartographic way with the aim of allowing for comparisons and relations between different areas of the world. Where Mapping Multiplicity uses line to represent relations, Worldmapper uses size. With GIS as the basis, the project uses algorithms to create maps in which the sizes of countries are proportional to a given value (e.g. population). United Nations agencies were used as the main data source. "*These unconventional maps challenge viewers by distorting a familiar image prompting them to ask why is something the wrong size? [...] Many people are uninterested in numerical data. Yet that same data can be made exciting by presenting it as a distortion of the world map.*"²⁷

One main theme of the cartograms is inequality and the intention of the project is to "*add an impartial, empirical overview that can assist the viewer in understanding more about their place in the world and their relationship to the people of other territories.*"²⁸ The subjects for the Worldmapper were chosen based on availability of data. The authors behind the project tried to tell a story with the maps – from providing basic information (such as population sizes), the maps move on to covering flows of people and goods and then address more complex issues, such as environmental, social and economic issues.

A difference between Worldmapper and Mapping Multiplicity is in their approach to visualize data. The idea behind Worldmapper is that the interpretation of information can be facilitated by a visual perception of underlying data while at the same time visualisation allows for a simple representation of information.²⁹ It is easier for people "*to judge the relative values of objects by the size of the area that each object occupies rather than to translate shades of colour into rates and then imagine what they imply.*"³⁰

In contrast, Mapping Multiplicity might seem at first glance complex because of the amount of details it entails, whilst at the same time it provides familiar visualisations of spatial data presented by urban plans and lines connecting these different parts (bodies) of the map. The seemingly endless repetition of looping lines and links captivate the eye into following them into various qualities, bodies and details. By zooming into the map one can discover more details or zoom out to see the entire map and the multiplicity of relations it represents in a glance. As Lévi-Strauss stated, "*to understand a real object in its totality, we always tend to work from its parts. The resistance it offers us is overcome by dividing it. Reduction in scale reverses this situation. Being smaller, the object as a whole seems less*

²⁷ D. Dorling, A. Barford, and M. Newman, 'Worldmapper: The World as You've Never Seen It Before', *IEEE Transactions on Visualization and Computer Graphics* 12, no. 5 (September 2006): 758, <https://doi.org/10.1109/TVCG.2006.202>.

²⁸ Dorling, Barford, and Newman, 758.

²⁹ Benjamin D. Hennig, *Rediscovering the World: Map Transformations of Human and Physical Space*, Springer Theses (Berlin: Springer, 2013), 49.

³⁰ Danny Dorling, 'Worldmapper: The Human Anatomy of a Small Planet', *PLoS Medicine* 4, no. 1 (30 January 2007): 15, <https://doi.org/10.1371/journal.pmed.0040001>.

formidable.”³¹ Accordingly, being able to see the entire map in its complexity in a single gaze through reduction in scale makes it *less formidable*, and afterwards it becomes easier to use and explore all the details and information it has to offer.

The difference in representation is due to the targeted audience. While Mapping Multiplicity is designed to be used by professionals (designers and planners), the aim of the Worldmapper is to make a wide general audience, particularly students, aware of how interrelated developments across the globe are, which is why the maps, and their underlying data, are available for free on the Internet³² and posters for use in classrooms were developed.

The regional (MSOA) map of Sheffield which represents census data and the location of participants in Mapping Multiplicity uses the same GIS base map as Worldmapper; however, instead of change of size, it uses colour and shades to represent data. By merging Worldmapper into Mapping Multiplicity it is possible to use the advantages of both methods, specially that they both share the similar goal of representing inequalities.

While the examples discussed above demonstrate how Mapping Multiplicity can be used alongside other practices and tools, in the next section I will further discuss the broader contribution and potential use of the map in various fields.

7.3.1 Expanding on the research contribution: potential use in practices and research

This section expands on the insights and the contribution of the mapping methods described above as they are considered to be important in the context of current debates in the research fields forming the background of this thesis. In the following I will list and then discuss the broader contributions, potential use and applications of this research in different sectors:

Mapping Multiplicity

- *provides a multi-layered, dynamic and collaborative analysis of the city, based on its inhabitants' experiences and can be used beyond the topic of (in)justice.*
- *can be employed as a complementary program alongside quantitative analysis in social science, urban planning and mapping. Plus, the visual characteristics of the map provide a 'soft' visual context of abstract data used for such analysis.*
- *allows for low-cost and more accessible research on social, political and spatial injustices.*
- *can be used as a basis for a network to develop a more comprehensive map of (in)justice beyond the scale of a city.*
- *can become a hub that represents relations between social aspects to other analyses and digital tools, e.g. building energy, daylighting, comfort modelling, distance mapping and visibility.*
- *can be a beneficial tool for community-based projects (e.g. community-led developments) and any other project that could benefit from identification, creation and working with communities.*

³¹ Claude Lévi-Strauss quoted in Brian Holmes, 'Counter Cartographies', in *Else/Where: Mapping: New Cartographies of Networks and Territories*; [Mapping Networks, Mapping Conversations, Mapping Territories, Mapping Mapping], ed. Janet Abrams and Peter Hall, 2. print (Minneapolis, Minn: Univ. of Minnesota Press, 2008), 23.

³² See: 'Worldmapper | Rediscover the World as You've Never Seen It Before', Worldmapper, accessed 11 September 2018, <https://worldmapper.org/>.

- *as a pedagogical tool for architecture and urban design students offers a comprehensive analysis whilst raising students' awareness about social conditions and (in)justices by bringing them together with physical and spatial site analysis.*

Mapping Multiplicity provides a multi-layered, dynamic and collaborative analysis of the city, based on its inhabitants' experiences and can be used beyond the topic of (in)justice. The program enables us to represent relations among social, cultural and spatial qualities of different communities and individuals and makes it possible to illustrate and analyse the differences among them. As mentioned, the qualities that were mapped in this research were defined based on inhabitants' experiences of (in)justice, and therefore the map showed relations and differences in their experiences. However, by defining these qualities based on other criteria or according to other research needs, it is possible to expand the use of this program beyond the issue of (in)justice. Thus, the Mapping Multiplicity program is a tool that can not only be used within just urbanism but also more generally within a participatory and alternative design and planning processes.

Mapping Multiplicity and the overall mapping method is a critical practice to conduct research on socio-cultural issues alongside physical conditions while questioning the value and use of city-space. Through participatory methods and by providing situated knowledge, this program enables planners, designers and city decision-makers to make informed decisions and propose new spaces or policies tailored to the particular community. A benefit of this approach is that regeneration and development can be more targeted and cost-effective since it focuses on what needs to be developed and unnecessary proposals are avoided (e.g. ones that do not fit with the social or cultural needs of the community). This can also lead to a higher chance of success and higher use-value for the locals.

Mapping Multiplicity can be used as a complementary program alongside quantitative analysis in different fields of social science as well as urban planning and mapping, thereby creating a more overarching understanding of the research topic. The overall mapping method introduced in this research reinforces individuality, subjectivity and quality in quantitative methods. Mapping Multiplicity can address the reductions that often occur using quantitative methods by representing complex relations in social phenomena (such as (in)justice), e.g. it can represent more effectively the differences between groups compared with the methodology of difference used in quantitative analysis, i.e. ANOVA.³³ By representing all groups without reduction, including minorities and smaller groups (that are often rendered as quantitatively insignificant and have a high risk of not being shown in analyses even though relations exist) the program can be used as a complement to such quantitative methods.

Moreover, the visual characteristics of the map (e.g. representing individuals, their assemblages and relations) can provide a visual context for the quantitative analysis. This was a valuable feature for some of the designers, researchers and students (users to whom I introduced the map) that they viewed as a potential way of complementing current quantitative analysis with visual 'soft' representations of abstract data. They acknowledged the lack of a tool that can make their significance visible to the designers and policy-makers. Plus, the program does not require the

³³ Quantitative analysis of variance (i.e. ANOVA) needs correctly randomized and homogenous groups when inner group variance is very low, otherwise only the strongest differences show up. Therefore, the risk of not showing relations and difference between groups, even though they exist, is extremely high. For more information please see Chapter 6.

translation of qualitative textual data into numerical data and makes it easier to create a quick visual representation of the data at hand. Therefore, using the overall mapping method and Mapping Multiplicity as a complementary process can enrich quantitative processes and propose new metrics for currently missed themes related to (in)justice and inequality in cities.

Mapping Multiplicities allows for low-cost and more accessible research on social, political and spatial injustices. I have developed this program also with the aim to provide an accessible tool for small design and planning offices, grassroots groups, activists, artists and so on; particularly those in developing countries (e.g. Iran where I come from). Due to the fact that the program is free and open source, works with subjective data gathered from residents and uses relational analyses (e.g. does not need controlled settings which require higher budget), it can be useful for design, planning and research groups that have small budgets, do not have the resources to purchase data or suffer from a lack of accurate, trustworthy or official data, or lack experts and facilities to conduct comprehensive research, particularly in small or local projects. By making research and analysis more accessible through the program for broader user groups, it can become possible to expand the analysis of (in)justice as part of every design/planning process. By continuing to converse about (in)justice, and expanding related analyses, this topic can become central to the activity of planning and design and therefore start to change popular discourse and enlarge the boundaries of action.

Mapping Multiplicities can be used as a basis of a network to develop a more comprehensive map of (in)justice beyond the scale of a city. Since the program was developed as open source, it is possible to connect the mappings of individual groups (who use this program) to create an extensive network of maps. The users can contribute to the mapping, on the one hand by creating a more significant data set and contributing to the overall project. On the other hand, by tweaking the program, adding and refining various parts of the mapping, the program can be improved or become more adaptable for diverse conditions and various design and planning needs. In this way, the mapping can evolve and grow horizontally.

This can provide a greater understanding of how (in)justice is experienced in different cities, countries and the world. While this network can provide macro-scale information, it also contains particularities of each area. Such information can help to provide situated solutions, relieves and interventions to be specified to their needs. Subsequently, it can become possible to create a depository of various solutions and proposals; and it can also promote a culture of cooperation (even cross-national) among different groups and initiate wider discussions on how to tackle various unjust conditions.

Mapping Multiplicity can become a hub that represents relations between social aspects to other analyses and digital tools, e.g. building energy, daylighting, comfort modelling, distance mapping and visibility. Another advantage of the platform is the possibility to connect this mapping to other external programs developed separately by other developers. This opens the lines of Mapping Multiplicity to other kinds of lines and a much broader multiplicity of data, information and analysis. The Mapping Multiplicity can become a hub that represents relations between all these various methods, linking social and political themes to various physical and spatial analyses. To name some of these programs:³⁴ *Ladybugs tools*, provides a range of environmental analyses such as sun-path, wind-rose, radiation-rose, run radiation analysis, shadow studies, and view analysis. *OpenStudio*,

³⁴ An extensive explanation of programs and how they can be connected to the Mapping Multiplicity is provided in Chapter 6.

Energy plus, Radiance and *Daysim* that are widely used for building energy, daylighting and comfort modelling. *SmartSpace Analyser* is a plug-in for distance mapping, connectivity and visibility analysis that is used from urban to building scale simulations. *Mosquito* can extract data (e.g. location, buildings, OpenStreetMap, messages and images) from social media (e.g. Facebook, Twitter, Flickr) and aids to map virtual identity on the physical map.

*Mapping Multiplicities can be a beneficial tool for community-based projects, for example, community-led developments, housing cooperatives, cohousing and any other project that could benefit from identification, creation and working with communities.*³⁵ Assemblages created in Mapping Multiplicity can illustrate moments of agreement and conflict among individuals. By identifying common values among residents it becomes possible to gather people under these shared values for the common good. The program can be beneficial for community-based projects as it allows similarities to surface that might otherwise have stayed hidden. By identifying existing communities and providing the capacity to grow or represent potential communities that were not realised before, the mapping can be considered as propositional, suggesting the creation of such collectives.

Thus, Mapping Multiplicity can become a hub that allows for the exploration and creation of communities and the development of spaces and services in the common interest or to resist unjust treatment through collective action. In this way Mapping Multiplicity can help projects that have bottom-up strategies when looking to explore possibilities to introduce a network of residents to create, manage and use facilities that can serve common needs, thus enhancing the capacity of urban resilience.

Mapping Multiplicity as a pedagogical tool for architecture and urban design students offers a comprehensive analysis whilst raising students' awareness about social conditions and (in)justices by bringing them together with physical and spatial site analysis. The overall mapping methods and the Mapping Multiplicity program provide easy and time-efficient analyses to research socio-spatial phenomena. As mentioned the visual characteristics of the map (e.g. representing individuals, their assemblages and relations) can provide a 'soft' visual context for the analysis thus assisting students in understanding the conditions and providing responsive design solutions. They can be used as a resourceful method to provide socially aware field analysis (a micro-scale research) for students.

As part of the design tutoring team of the M.A in urban design (MAUD) course at the University of Sheffield, I have introduced the methods used in this research and the Mapping Multiplicity program as a site analysis tool offering three out of the twelve groups to use the mapping program for their analysis. During the three-hour workshop, students adopted the mapping without difficulty and applied it in their project. The program helped them form a more organised and comprehensive approach to site analysis. The quality table (based on the findings of the first two mapping phases) provided them with a thorough list of attributes, making them aware of some aspects that other groups often missed. Moreover, running the analysis assisted them to find a variety of relations among these different qualities, creating an overarching map of communities (assemblages), potential communities and the social and spatial needs of these communities, which informed their planning and design. Mapping the space of (in)justice in this way can increase awareness on social,

³⁵ For example, [communitylandtrusts.org.uk](http://www.communitylandtrusts.org.uk), 'National CLT Network', accessed 27 September 2017, <http://www.communitylandtrusts.org.uk/>; 'NaCSBA - The Voice of the Custom and Self Build Sector', accessed 27 September 2017, <http://www.nacsba.org.uk/>; The Oxygen Agency [ukcohousing](http://ukcohousing.org), 'UKCohousing.Org', UK Cohousing Network, accessed 27 September 2017, <https://cohousing.org.uk/>.

political, spatial aspects and the relations among them when producing space. This can also lead to a more socially conscious and comprehensive approach to design and planning.

7.4 Limitations of the research and future possibilities/works

In relation to the mapping methods, contributions and implications of the research presented in this thesis, a number of future developments and suggestions can be put forward. The proposed Mapping Multiplicity program and the overall mapping methods show the type of qualities, values and engagement considered to be needed in order to bridge the current gap in the digital mapping and planning for regeneration and development of a just city.

In addition to discussing how Mapping Multiplicities can address some of the gaps, I will also elaborate on some of the limitations of the research and the mapping platform. Some of these issues can be addressed by conducting further fieldwork with a larger number of participants, while others need further examination.

In case of the research limitations, first of all, the research conducted here uses, for the most part, Anglo-American literature, and the case studies chosen are geographically related to Europe, particularly the UK, and thus adaptation might be necessary for countries with different contexts.

Second, the physical space that is mapped and represented is external - it is public or semi-public. It was out of the scope of this research to step into private and internal spaces. However, as discussed previously, (in)justice is multi-scaled. A limitation of the study is that time and cost constraints meant that the fieldwork conducted for this study only considered urban spaces. While Mapping Multiplicity has the potential to map the micro scale as well, this was not addressed within the scope of this study.

Third, the interviews, co-mappings and survey that were carried out as the basis of this research remain 'superficial', meaning they operate at a distance while attempting to make close connections. Envisaging this mapping process to be used in urban planning and design practice to attend to unjust conditions, I have attempted to develop a methodology that remains on the surface, so that engaging participants and understanding (un)just inhabitation become possible even with minimal contact and quick discussions. As mentioned, using art and co-mapping methods has the advantage of looking into conditions that under other circumstances require long established relationships and a sort of commitment that is not always available in practices of mapping and urban design. For this reason, this limitation can be regarded as a choice, and while the mappings operate on the surface, they are nevertheless highly situated.

There are particular limitations to the Mapping Multiplicity program that can also be resolved with further research. While I discussed them more broadly in Chapter 6, I will briefly mention them here. First, I have developed the prototype of the Mapping Multiplicity program with Grasshopper (a visual programming language) as part of Rhinoceros 3D (Rhino). While Rhino is a popular software, not all designers use this program. One possible way for a more inclusive approach is to migrate from this platform to HTML, which allows running this program through an internet browser.

Second, geo-location used to provide the spatial (urban) context represents a sensitive issue.³⁶ There are negative implications for such technologies, for example surveillance³⁷, which can discourage residents from participating in the mapping. Transparency regarding the reasons for conducting such research, data ownership and anonymity of users can be some of the ways to tackle these issues. The participants should have the option to withdraw at any moment from the research and delete all their information used in the mapping. There is also the possibility to use information without being able to track back the data to the participant. Even without geo-location tracing, the information can be significant in regards to how (in)justices are experienced by different communities.

Third, if the mapping is used as a data mining tool to profit businesses, residents might be discouraged to share their information in the mapping. It is also necessary for city decision-makers (e.g. the city council) to put an end to such misuses and make sure that people receive something in exchange (honour their demands) while engaging in the process.

Finally, Mapping Multiplicity is a prototype. The fact that mapping here is produced as an opensource program allows for adaptations and tweaks of the program. This makes it possible to be used in the broader context and under a variety of conditions and to accommodate other types of analysis.

Future/possibilities

Future works can further develop the platform by adopting it in different contexts and locations, experimenting with different types of data and visualisation, connecting it to other applications, applying it to different design and planning processes as well as by offering it to grassroots groups for more extensive social science research. The latter two are especially valuable as the aim for the program is that both program and methods would grow horizontally and remain independent (e.g. not dependent on establishments representing power such as governing organisation or a profit-oriented business) and thus the critical perspective can be maintained. In this relation, to further develop the research/platform, some proposals can be put forward as expressed in the following:

- *To include additional aspects, features and further tweaking to the program to accommodate applying the program in the contexts of other countries.*
- *To connect various maps and diagrams created by different grassroots groups and design and planning initiatives in order to create a macro-scale mapping of (in)justice.*
- *To expand the domain of the discussions on (in)justice to the broader SNS network through the website concept and gather other types of information through citizen reports.*
- *To develop a smartphone application that can simplify the data collection, use of and accessibility to the map.*
- *To identify other ways through which the website concept can help raise awareness and offer a pedagogical engagement with issues related to (in)justice.*
- *To incorporate other creative, interactive or digital art methods that can offer ways to gather and visualise subjective data including emotional, sensorial or intangible aspects of human life and experiences.*

³⁶ The participants were anonymised in this research and the accuracy of the urban context is in the range of 5-6 buildings.

³⁷ Mike Crang and Stephen Graham, 'SENTIENT CITIES Ambient Intelligence and the Politics of Urban Space', *Information, Communication & Society* 10, no. 6 (December 2007): 789–817, <https://doi.org/10.1080/13691180701750991>.

To include additional aspects, features and further tweaking to the program to accommodate applying the program in the contexts of other countries. This program was developed within the context of Sheffield and the UK and its political, social and physical conditions. Although the program was developed being able to accommodate a diversity of conditions, employing the program in the context of other countries and cities can help to further re-appropriate the program's features to match local needs and particularities.

To connect various maps and diagrams created by different grassroots groups and design and planning initiatives in order to create a macro-scale mapping of (in)justice. While the program is developed to be used by individual groups, the opensource platform has the ability to connect mappings of various groups who actively use this program to map (in)justice in other parts of the city, country or world. The possibility to connect all these maps can help to create a much larger map of (in)justice that can provide a greater understanding of how (in)justices on the national and international macro-scale take place. This can provide broad but at the same time more situated knowledge and, in turn, efficient solutions, relieves and aids specific to the needs.

To expand the domain of the discussions on (in)justice to the broader SNS network through the website concept and gather other types of information through citizen reports. A connection to the other popular SNS websites (e.g. Facebook, Twitter, Instagram and etc.) should be considered to increase the scale of engagement in the mapping program and broaden the discussion on the issue of (in)justice. In addition, further research can help to identify what other types of information and data can be gathered through citizen reports and citizens-as-sensors to enrich the information on the various conditions influencing experiences of (in)justice while at the same time encouraging proposals and solutions to address these conditions.

To develop a smartphone application that can simplify the data collection, use of and accessibility to the map. Following from the idea of the website concept and the connection to SNS, the map can be provided to residents via a smartphone app. Such an application puts the map at the users' fingertips on demand. The advantages of an app include providing a more straightforward and accessible use of the map, which makes it easier to report a situation, and accordingly facilitate data collection and keeping the data up to date (e.g. via citizens-report). At the same time it benefits users with ways to find or create communities on the basis of their shared values, communicate with other users and help to create movements or resistance against unjust conditions.

To identify other ways through which the website concept can help raise awareness and offer a pedagogical engagement with issues related to (in)justice. In addition to sharing information, connecting and interacting through the mapping website, there is the possibility to raise awareness, help citizens being (or becoming) conscious, civically-minded and engaged to address (in)justices. Some of these are potentially achievable through facilitating pedagogy and civic lifelong learning opportunities, e.g. by learning how some behaviours are inappropriate and can lead to unfair treatments, but also to provide help, foster solidarity or engage in voluntary works.

To incorporate other creative, interactive or digital art methods that can offer ways to gather and visualise subjective data including emotional, sensorial or intangible aspects of human life and experiences. Storytelling and Map Art as presented here attempt to use alternative methods to gather, collaborate and understand but also to connect and create relations among map makers, people, designers, planners, etc. Art practices and digital media can offer various creative methods

to enhance emotional, sensual, and eventually internal mental and emotional processes through which we can start to grasp intangible experiences and values. Something that is substantially missing in the current distant, unsympathetic and overly objective methods of enquiry.

7.5 Final thoughts: toward a just city ...

This interdisciplinary thesis used an experimental mapping approach to investigate just city development. It explored a mapping process for eliciting and representing inhabitants' experiences of (in)justice and provides as an outcome situated information gathered by incorporating local knowledge. Through this it enables designers, planners and decision makers to make informed decisions in relation to particular conditions of an area, which is an essential step in order for development to be just.

Many of the issues raised based on the mapping conducted in Sheffield resonate with the great challenges faced by cities globally. Therefore, it is considered that similar approaches, elements of it or context-specific re-appropriations of the methods and program presented, can be utilized to investigate ways of achieving just city development in other places or different settings and to advance research in the fields of architecture, urban design and planning.

The thesis has also shown that discussions about just urbanism and means to achieve it ultimately rely on democratic processes that engage local knowledge and include diverse experiences endured by inhabitants in their everyday life. Recognition of diverse socio-cultural values alongside the fair distribution of wealth and development are necessary and pose significant challenges that need to be addressed for contemporary cities to become just. Yet the arguments about justice are much broader and need to be openly and transparently discussed among citizens and decision makers. Therefore, it is essential to provide inhabitants with the opportunity to co-map and subsequently co-produce together with designers, planners and decision-makers a shared vision for a just city.

Since the conditions under which (in)justice is experienced and our definition changes depending on different temporalities and geographical locations, political and economic conditions and socio-cultural values, defining and addressing (in)justice is a process. This process requires continuous questioning, surveying, gathering and mapping of all the different qualities, values and subtle experiences to enable the provision of situated solutions. A path that was put forward in this research through the mapping method. Although it is not claimed to be a panacea to the great challenges of achieving a just city, the methods that were proposed in this thesis have at least the potential to provide information on the conditions that need to be addressed for cities to become more resilient and pave the way toward a just city to come.

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Appendices

Appendix I Case study areas

For the purpose of this research a wider set communities and civic organizations that are actively working in Sheffield were included as part of the network of this study such as:

- City of Sanctuary (Asylum) <http://www.cityofsanctuary.org/>
- Sheffield Foodbank <http://www.sheffieldfoodbank.org.uk/>
- Assist Sheffield (Asylum Help) <http://www.assistsheffield.org.uk/>
- Sheffield Town Trust <http://www.sheffieldtowntrust.org.uk/>
- SHEBEEN (Sheffield Black and Ethnic minority environmental network) <http://s207555923.websitehome.co.uk//>
- Sheffield Equality Group <http://www.nowthenmagazine.com/fairnessonthe83/jasonleman>
- Social and Spatial inequality (Mapping People not Land) SASI Group <http://www.sasi.group.shef.ac.uk/staff.html>

Extensive explanations on three main case study areas plus publications, communities, NGOs and civic societies active in these areas can be found below.

Parson Cross

The City Council has implemented regeneration projects in the Parson Cross area, starting in 1999. These projects are:

- SOAR (Southey Owlerton Area Regeneration)
- Adlington New Homes
- Brearley Forge New Homes
- Chaucer District Centre
- Chaucer new homes
- Chaucer Public Art - Markers and Banners
- Chaucer Public Art - Square Dance - Step Change
- Chaucer public space improvements
- Larkin Grove new homes
- Malthouses Demolition
- People, places and spaces in Parson Cross and Foxhill

There are also neighbourhood communities and NGOs active in the area that are part of the network of mapping in this research including:

- Parson Cross Community Development Forum
- Foxhill Forum (working closely with Parson Cross neighbourhood)
- Southey and District Action Group
- Green Ribbons (<http://antonylyons.macmate.me/sheffield/sheffield/welcome.html>)
- Sheffield Food Bank - PXI and Mount Tabor Methodist Church (Parson Cross, Southey, Longley & Fox Hill)

There are a series of publications available relating to the Parson Cross area, namely:

- Hey, David, *The Village of Ecclesfield* (Advertiser Press, 1968)(Sheffield Archives: HEY/LOCAL; also available at Chapeltown and Stocksbridge libraries: 942.741)
- Holland, Derek, *New Light on Old Ecclesfield* (1975)(Sheffield Local Studies Library: 942.74 SQ; copies also available at SheffieldArchives: ECC/LOCAL and Central Library Store and Hillsborough Library: 942.821Q and 942.74 SQ)
- Jones, Joan, *Ecclesfield, Grenoside, High Green and Chapeltown* (Nonsuch Publishing, 1999 and 2005) (Sheffield Local Studies Library: 942.74 SST; copies available in a number of community libraries: 942.821)

Highfield (Sharrow)

There are number of communities active in this area, including:

- Sheffield Chinese Community (<http://www.sheffieldchinesecommunity.org.uk>)
- Somali Community Centre
- Sharrow Community Forum
- Sharrow Festival (<http://www.sharrowfestival.btck.co.uk>)
- City of Sanctuary that is actively working with asylum-seekers and refugees in this area.

Highfield and London road local falls into the Sharrow neighbourhood history and for this reason they share many of the available publications, including:

- Chaytor, M., *The Wilsons of Sharrow: the Snuff Makers of Sheffield* (Northend, 1963) (Sheffield Local Studies Library: 338.4 S; Sheffield Archives: CHA/BUS)
- *Urban Redevelopment and Grassroots Action in Chicago and Sheffield: Themes, Variations and Uncertain Legacies*
- *Workshops for the Blind, Sharrow Lane, Sheffield* [issued in connection with the formal opening of the Sheffield Corporation's Workshops for the Blind, on the 23rd October 1930] (Sheffield Local Studies Library: PAMP 911 S)
- *Workshops for the Blind, Sharrow Lane, catalogue of products, 1930* (Sheffield Local Studies Library: 362.2 SST)
- Hey, David, *A History of Sheffield* (Carnegie, 2005) (Sheffield Local Studies Library: 942.74 S; Sheffield Archives: HEY/LOCAL; also available at most Sheffield libraries)
- Binfield, Clive, *The History of the City of Sheffield 1843 - 1993* (Sheffield Academic Press, 1993) (3 vols) (Sheffield Local Studies Library: 942.74 S; Sheffield Archives: SHE/LOCAL; also available at most Sheffield libraries)

Dore

The Dore Village Society (<http://www.dorevillage.co.uk>) is active in organizing activities such as public meetings and village shows planning and publishing the Dore to Door magazine. This research connects with this community and subdivided communities to implement the fieldwork and mapping in this area.

Publications related to Dore are:

- Dore Village Society Newsletter (1965 – 1980) and Dore to Door (the Newsletter of the Dore Village Society) (1986 to date) which contains articles relating to many aspects of Dore's local history.
- Vernon Brelsford, *A History of Dore and Totley From the 9th to the 20th Century*, 1953 (Sheffield Local Studies Library: 942.51 SST)
- V. S. Doe, *Essays in the history of Dore in the nineteenth century*, 1977 (Sheffield Local Studies Library: 942.51 SQ)
- John Dunstan, *Chapel Life at Dore*, 2011 (Sheffield Local Studies Library: 287.1S)
- John Dunstan, *Dore Old School in records and recollections*, 2006 (Sheffield Local Studies Library: 372.94274 SQ)
- John Dunstan, *The A to W of Dore: the story of the village's road names*, 2002 (Sheffield Local Studies Library: 942.74 S)

Appendix I.a Case studies area's characteristics

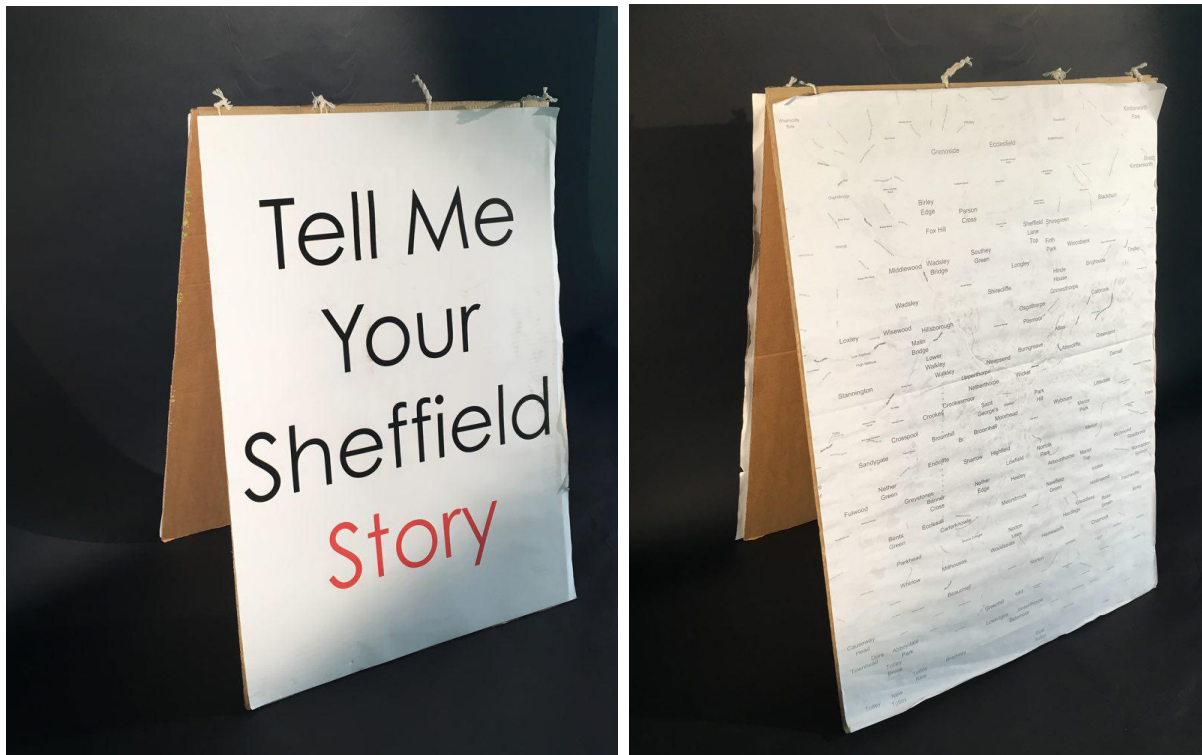
Social & Economic Attribute	Parson Cross	London Road (Highfield)	Dore
Religious Diversity			
%Christian	60	31.8	64
%Buddhist	<0.5	1.5	<0.5
%Hindu	<0.5	3.5	0.5
%Jewish	<0.5	<0.5	<0.5
%Muslim	0.9	19	1.7
%Other	0.4	0.9	<0.5
%No religion	31.8	36.2	25
%Not stated	6.5	6.6	7.1
Ethnicity			
%White	95.6	61.1	94.4
%Mixed	1.3	3	1.6
%Asian	1	24.8	2.5
%Black	1.3	7.2	3.7
%Other	0.6	3.7	0.5
Gender			
%Male	48	52	47
%Female	51	47	52
Age			
Mean age	40.7	28.4	45.7
Median age	41	22	48
Economic Activity			
%Economically active	64.9	58.9	68.4
%Economically inactive	35	41	31.5
%Unemployed	2.26	1.29	0.54
House Ownership			
%House owned	53.7	25.8	85.4
%House Social rented	40	25.7	6.4
%House Private rented	5.3	46.4	7.1
Deprivation			
% Household is not deprived	27	34	56
% Household is deprived in 1 dimension	31.6	38.6	30.4
% Household is deprived in 2 dimensions	30.2	19	11.4
% Household is deprived in 3 dimensions	10.2	7	1.8
% Household is deprived in 4 dimensions	1	1	0

Social & Physical Attribute	Parson Cross	London Road (Highfield)	Dore
Density			
Population Density (Person per hectare)	41.8	94.2	7
Residential Density (Household per hectare)	17.9	30.1	3
Number of Bedrooms			
Average NO of bedrooms per household	2.6	2.6	3.3
% Up to 0.5 persons per bedroom	11.7	9.3	25.4
% 0.5 ≤i≤1.0 persons per bedroom	47.8	48.3	57
% 1.0 ≤i≤1.5 persons per bedroom	30	19.1	14.1
% Over 1.5 persons per bedroom	17.4	23.1	3.3
House type			
%Flat	12.3	49.3	11.7
%Terraced	24.4	34.6	10.2
%Semi-detached	55.9	8.9	25
%Detached	7.2	5	53
Car Ownership			
%Owns no car	36.2	54.3	12.6
%Owns 1 car	42.7	33.9	38.1
%Owns 2 or more cars	21	11.7	49.1
Means of travel to work			
%From or at home	1	1.5	7
%Tram	<0.5	1	<0.5
%Train	<0.5	2.6	1.8
%Bus	10.8	7	4.7
%Taxi	<0.5	<0.5	<0.5
%Motorcycle	0.5	<0.5	<0.5
%Driving	34.3	14.5	44.8
%Passenger in a car	4.6	1.8	2.6
%Bicycle	<0.5	1.4	1.6
%On foot	4.1	16	2.8
%Other	<0.5	<0.5	<0.5

*Citation: Office for National Statistics; National Records of Scotland; Northern Ireland Statistics and Research Agency (2016): 2011 Census aggregate data. UK Data Service (Edition: June 2016). DOI: <http://dx.doi.org/10.5257/census/aggregate-2011-1>

Appendix II Storytelling map

Picture of the billboards standing next to me in order to recruit participants.



Appendix II.a Questions

To begin the mapping process, I focused in the first phase on the particular construction of Sheffield as a story, a memory and a place as imagined by its residents. I wanted to understand how (in)justice in Sheffield has influenced the urban life experience. What are the traces of (in)justice in the memory of people? What constitutes (in)justice in the mind of Sheffield residents? What are the themes and qualities that influence their experience of (in)justice?

- What is your story?
- What is your Sheffield story?
- Did you experience injustice in your life?
- Is your life story influenced by experiences of injustice?
- Do you think Sheffield is influenced by injustice? How? What caused such injustice?
- What is injustice in your opinion? Is it related to where people live? Buildings? City? Their income? Lack of respect?

Appendix III Map Art

Painting Process

After entering the workshop, each participant was presented with a topic/question as well as an urban plan of Sheffield. The same city plan of Sheffield was also faintly printed with acetone onto the base surface of the canvas.

Each participant was presented with a printout of a topic/question that additionally had 9 blank spaces on it. To respond to the question/ topic they were asked to fill these blank spaces by naming and ranking up to 9 areas/neighbourhoods from 'most' to 'least' attractive, safe, tolerant, deprived etc. Each of the nine spaces was assigned with a colour, ranging from warm to cold colours – red, pink, orange, yellow, white, green, sky blue, dark blue, violet. In this way, each neighbourhood that would be chosen for example as 'most' would get the same colour.

After the participants responded to the question, the assigned colours (25 millilitre of acrylic paint per answer) were instantly poured on the respective areas of the canvas. This process was repeated for every participant until the canvas was entirely covered with paint. Each canvas could accommodate at least 25 participants.

The liquid evaporates within hours depending on the atmospheric temperature and humidity. In rainy days I used a gentle heater fan to dry the canvas.



Appendix III.a Interview questions

The first question in the collective map art was the starting point of the process. I had prepared a number of questions for the interviews to start the conversation around the topic of the day, relating to aspects of (in)justice and would then adapt the questions in relation to the participants' responses. Below some examples of questions:

• Physical Aspects of (In)justice: Attractiveness and Maintenance

Question for the map:

"Which areas do you consider to be the most and least attractive?"

Some of the post-mapping questions:

What do you perceive as good and bad physical qualities of a neighbourhood?

Why do you think some areas are more attractive than others?

Do you perceive the difference in good and bad physical quality of different neighbourhoods as unjust?

What other physical aspects do you consider as unjust or unevenly developed in different areas of the city?

• Social Networks, Social Activities and Sense of Community

Question for the map:

"Which neighbourhoods in your opinion have the most to least sense of community?"

Some of the post-mapping questions:

What are the qualities that make a neighbourhood community good or bad?

What are the unequal/dividing/distinguishing qualities in various communities?

Do you think inequality and unjust treatment have an influence on the communities?

• Trust and Perceived Safety

Question for the map:

"Please order the neighbourhoods from those that you perceive as safe to those less safe"

Some of the post-mapping questions:

Do you think inequality and injustice influence safety and trust in neighbourhoods?

In your opinion, what makes an area safe?

Is there any area that you avoid going?

Do you feel safe in your neighbourhood and why?

Do you trust your neighbours? What are the differences between safe and unsafe areas?

• Social Order, Tolerance & Recognition

Question for the map:

"Which areas do you believe are the most and least tolerant toward diverse cultures?"

Some of the post-mapping questions:

Are neighbourhoods in Sheffield tolerant of diverse cultural backgrounds?

Do you have ethnic minorities as your neighbours? How would you describe your relationship with neighbours and communities of different cultures than yours?

Have you ever experienced racism or any kind of intolerance in your neighbourhood?

Why do you think there is intolerance in some of the neighbourhoods?

Do you feel that you are accepted and welcomed by the community in Sheffield?

Have you ever been discriminated against or experienced injustice because of your identity?

• **Deprivation, Perceived Distributive Injustice and Reduction in Wealth Disparities**

Question for the map:

"In your opinion what are the most and least deprived areas in Sheffield?"

Some of the post-mapping questions:

Why do you think some residents are less advantaged than others?

Do you think the inequality gap is large in Sheffield?

In your opinion, what are the reasons behind inequality and injustice in the city?

Do you have any experiences of injustice and unfairness? How is it possible to have a just society?

• **Perception of Development Inequity**

Question for the map:

"Name areas from most to least in need of regeneration and urban development."

Some of the post-mapping questions:

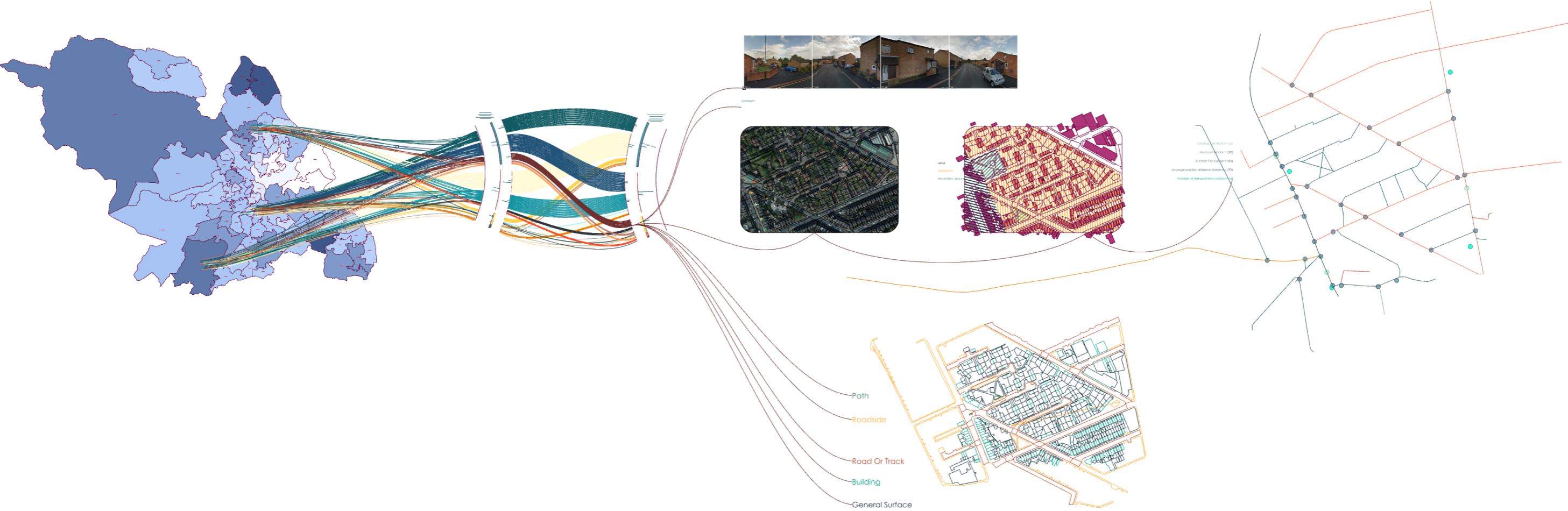
In your opinion, do you believe some areas receive more funding development or investment than others? Which areas receive more investment or development?

Do you think city development in Sheffield is 'just'? If not, why do you think uneven development in Sheffield exists?

What are the reasons behind uneven development of the city?

Appendix IV Mapping Multiplicity

Appendix IV.a Mapping Multiplicity diagrams



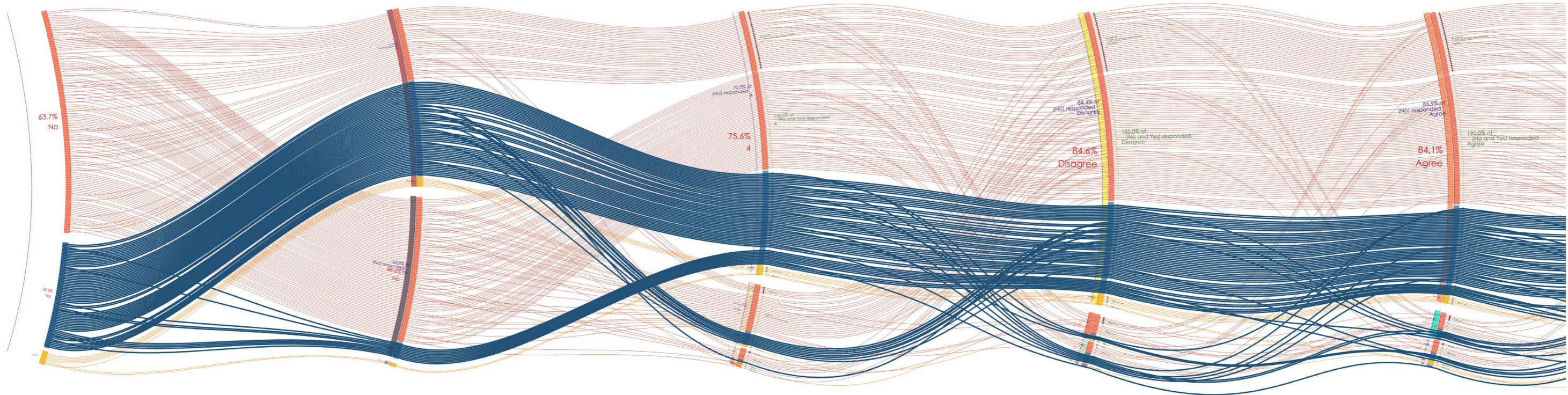
Do you experience injustice and unfairness in your daily life because of who you are or your identity? (Yes or No)

Have you ever felt discriminated because of who you are or your identity?

How important is family?

I Believe it is best not to get involved in taking care of other people's needs.

One should always find ways to help others less fortunate than oneself.



Do you feel that the distribution of money and wealth in this country today is fair, or that it should be more evenly distributed among a larger percentage of the population?

I changed jobs.

Do you experience injustice and unfairness in your daily life because of who you are or your identity?

Do you tend to Believe or not Believe in the following statement : Government must see that no one is without food, clothing or shelter?

I have done something to avoid discrimination.

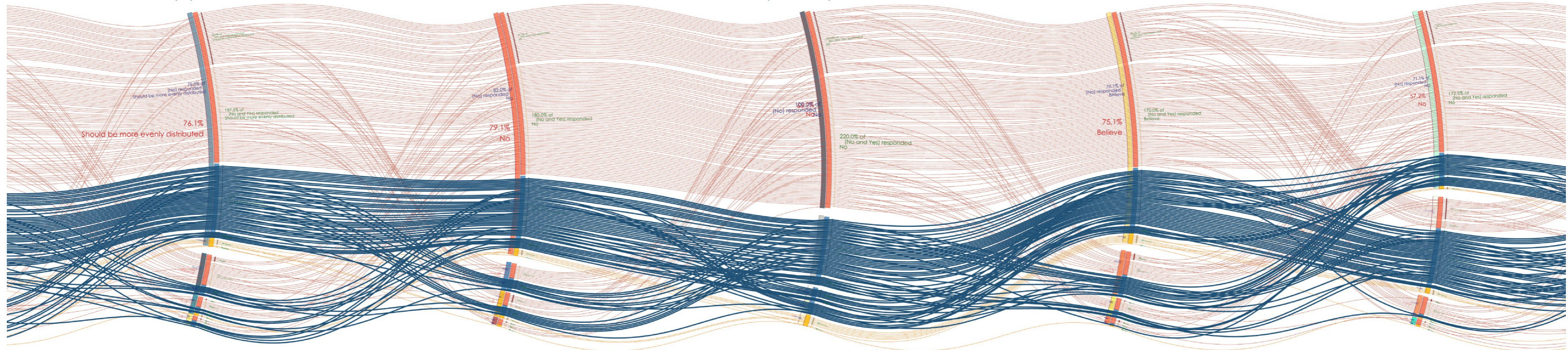


Figure 6-18 Diagram visualizing the relation of first stratum (people who experience injustice) with every other stratum organized from the most to least related assemblages (answers). Labels in red show the percentage of the assemblage.

I have done something to avoid discrimination.

I avoid going to certain public places.

Homeless shelter/program

How important is leisure time?

Many poor people simply don't want to work hard.

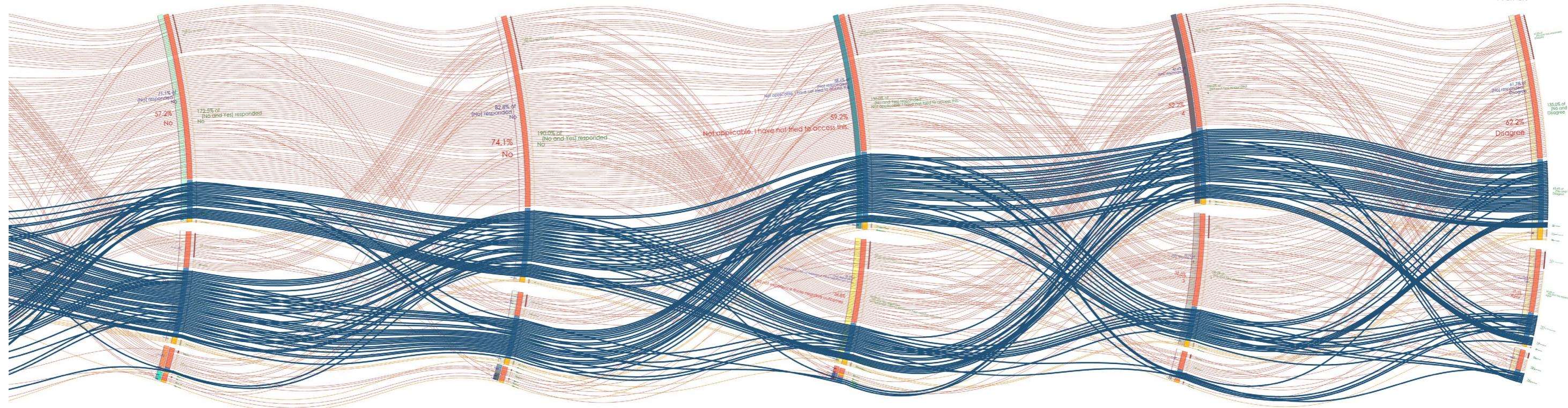


Figure 6-18 Continuing the previous page diagram

Do you experience injustice and unfairness in your daily life because of who you are or your identity? (Yes or No)

Public spaces

Green spaces

Façade improvement

Transportation (buses & tram)

Recycling facilities

Community activities

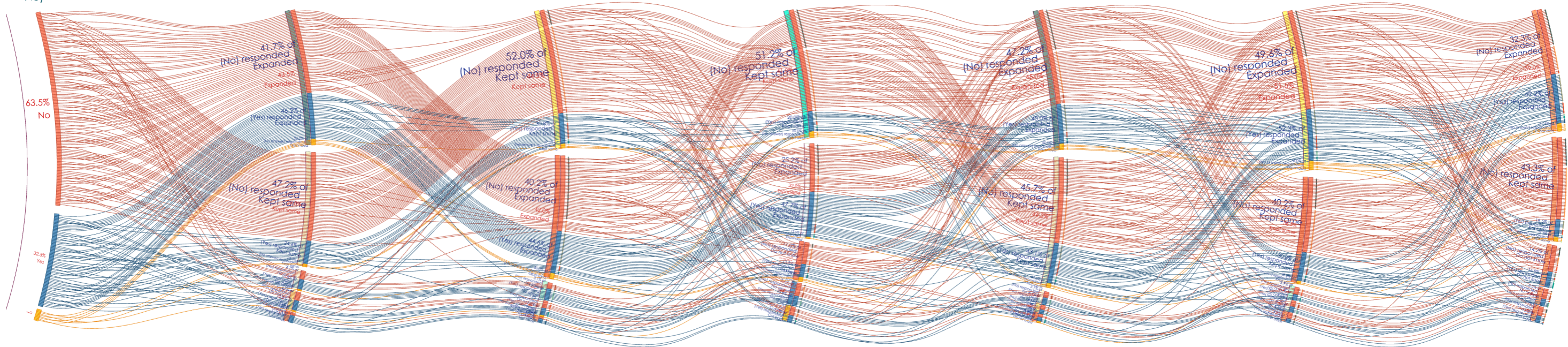


Figure 6-19 Contrasting relation between EI and NEI regarding spatial and urban improvement.

Do you experience injustice and unfairness in your daily life because of who you are or your identity? (Yes or No)

Do you think it's still possible to start out poor in this country, work hard, and become rich?

The government should redistribute wealth by heavy taxes on the rich.

Your gender?

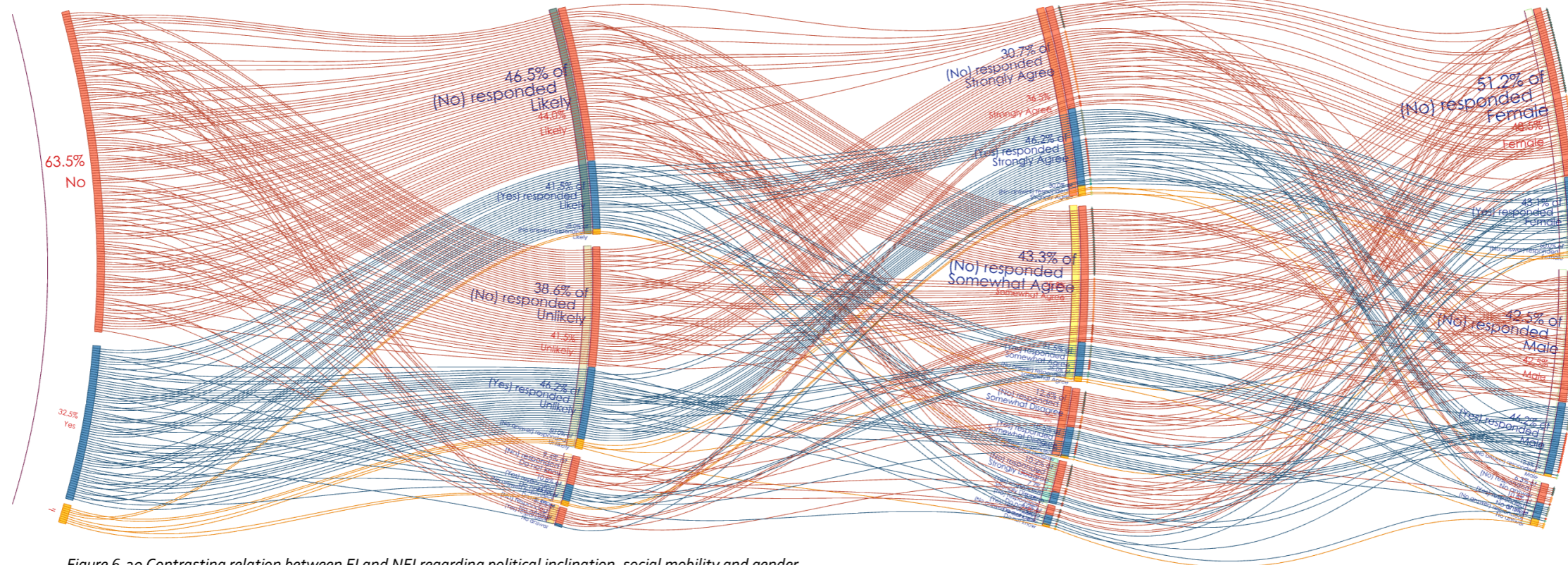


Figure 6-20 Contrasting relation between EI and NEI regarding political inclination, social mobility and gender.

Do you experience injustice and unfairness in your daily life because of who you are or your identity? (Yes or No)

How important is leisure time?

How important are friends and acquaintances?

How important are people in your neighbourhood?

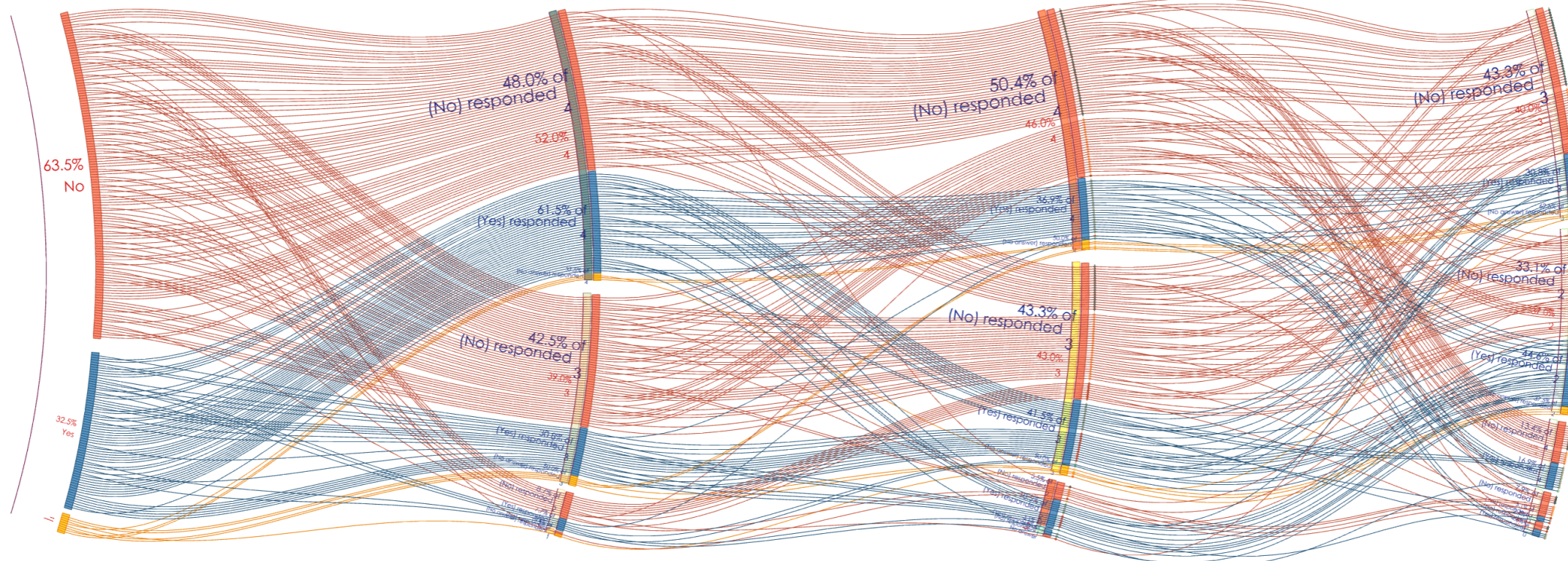


Figure 6-21 Contrasting relation between EI and NEI regarding priorities.

Figure 6-24 Contrasting relation regarding political milieu between Middle Eastern population experiencing injustice (MEI) with dark blue lines and white population experiencing injustice (WEI) with light orange lines.

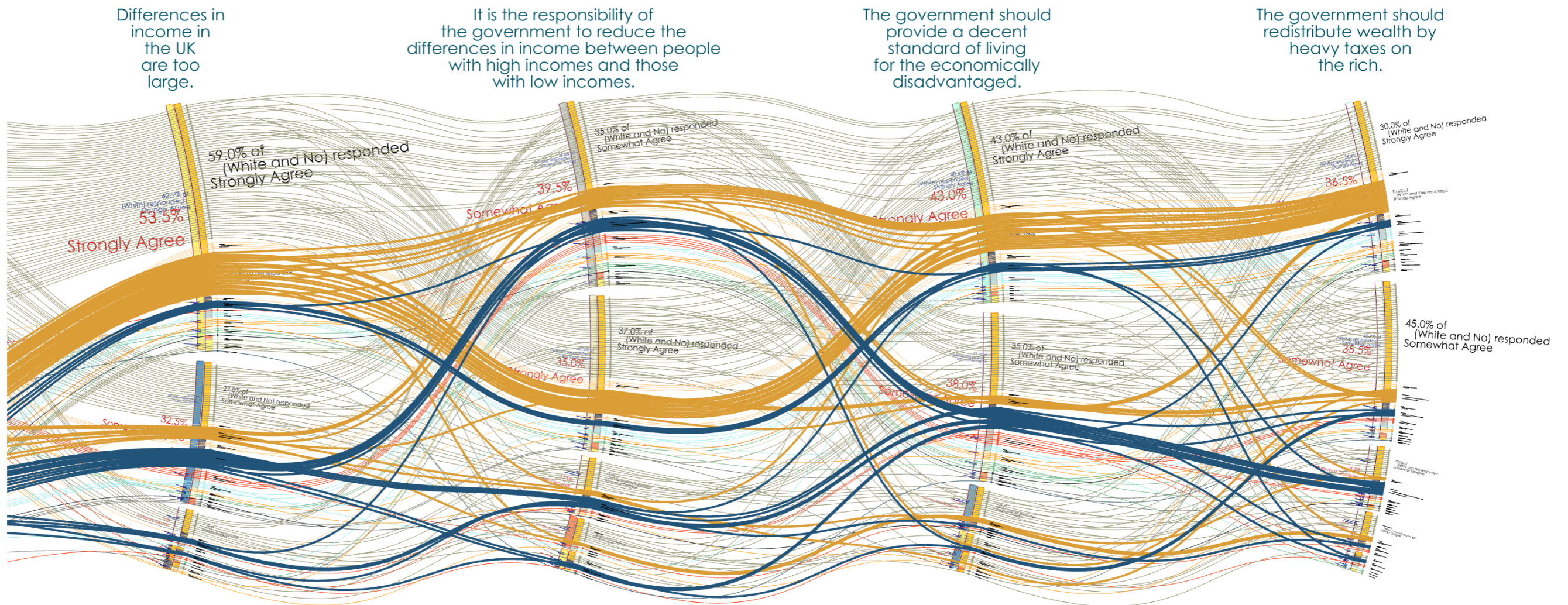
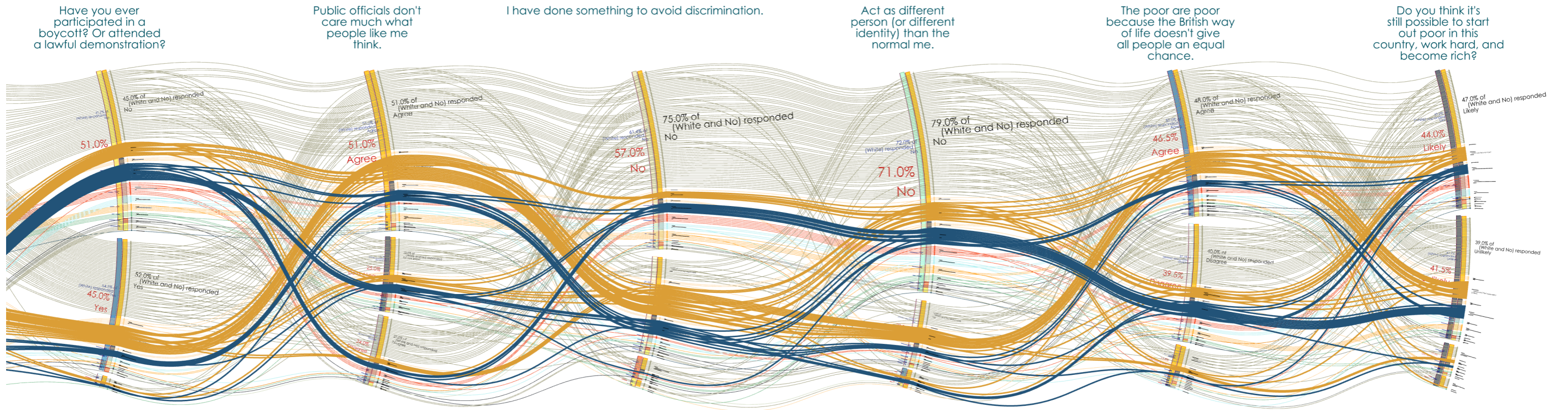


Figure 6-25 Contrasting relation regarding socio-political aspects.



How important is work in your life?

How important is leisure time?

How important are friends and acquaintances?

How important are people in your neighbourhood?

Figure 6-26 Contrasting relation regarding priorities.

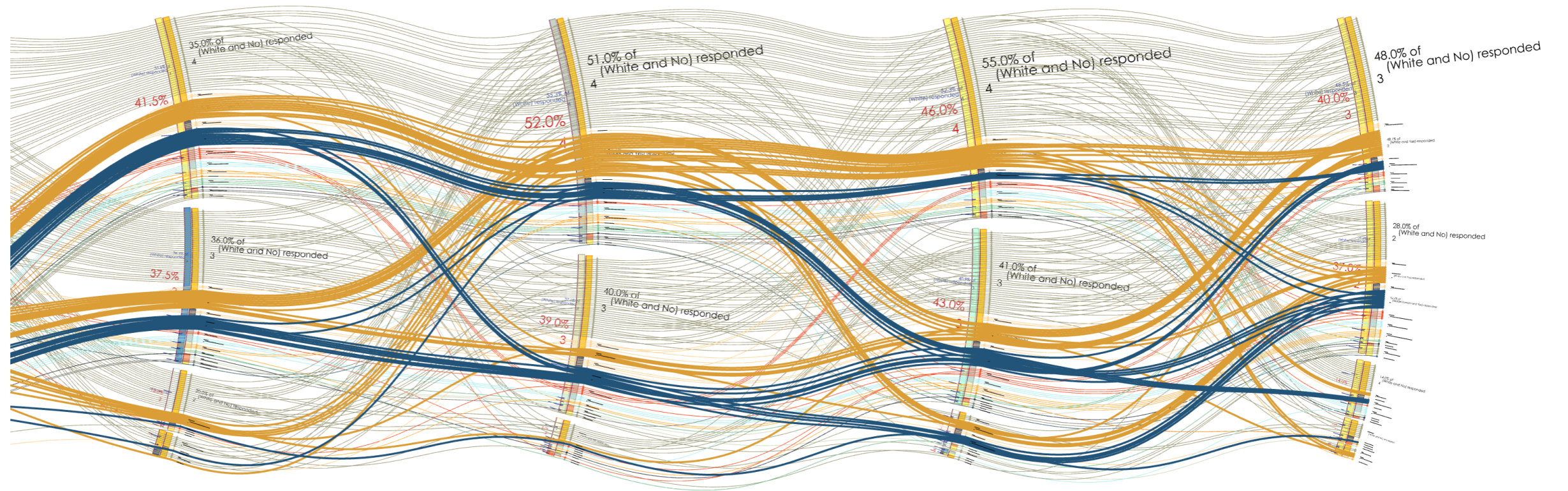
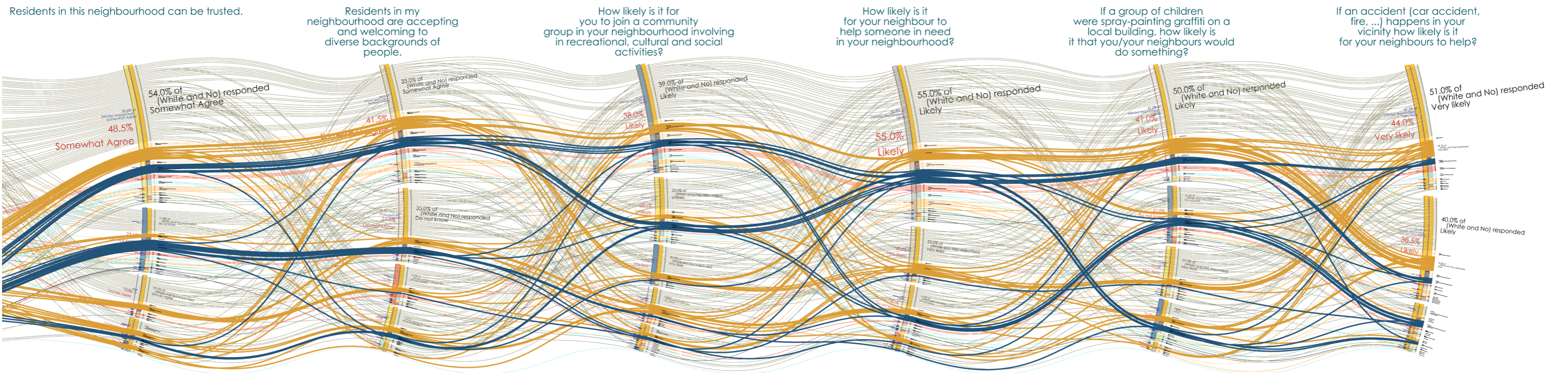


Figure 6-27 Contrasting relations regarding trust and interaction with community.



I avoid going to certain public places.

I enjoy taking walks through my neighbourhood.

There is no other neighbourhood I would rather live.

Residents in this neighbourhood generally don't get along with each other.

Figure 6-29 Contrasting relations regarding sense of belonging to the neighbourhood.

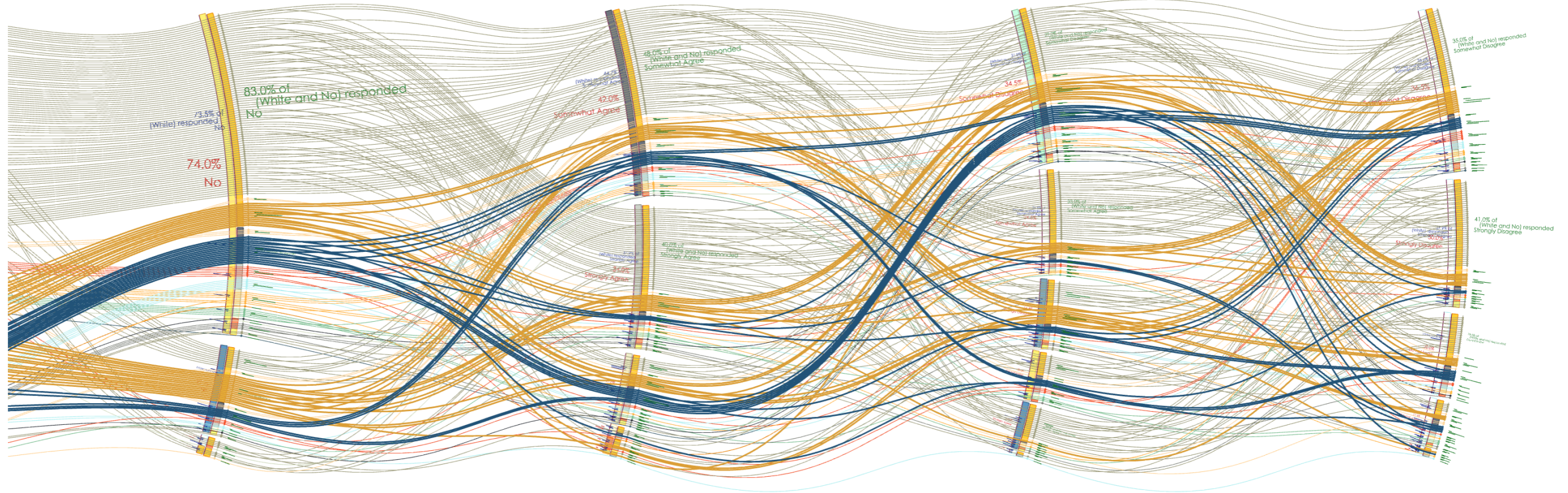


Figure 6-28 Contrasting relation regarding safety, satisfaction of physical environment and need for expansion

Safety

Public spaces

Shopping

Public spaces

Transportation (buses & tram)

Recycling facilities

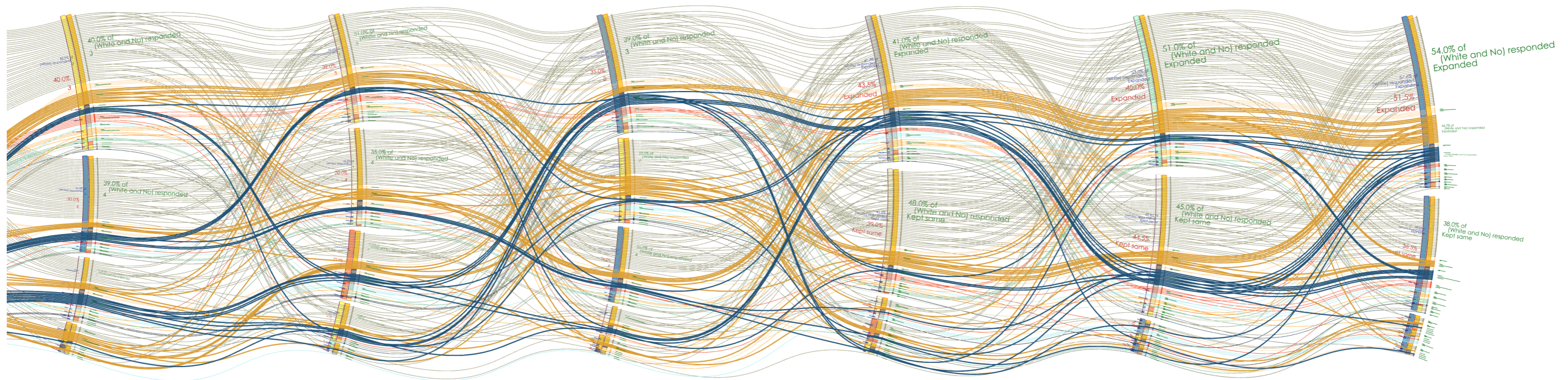
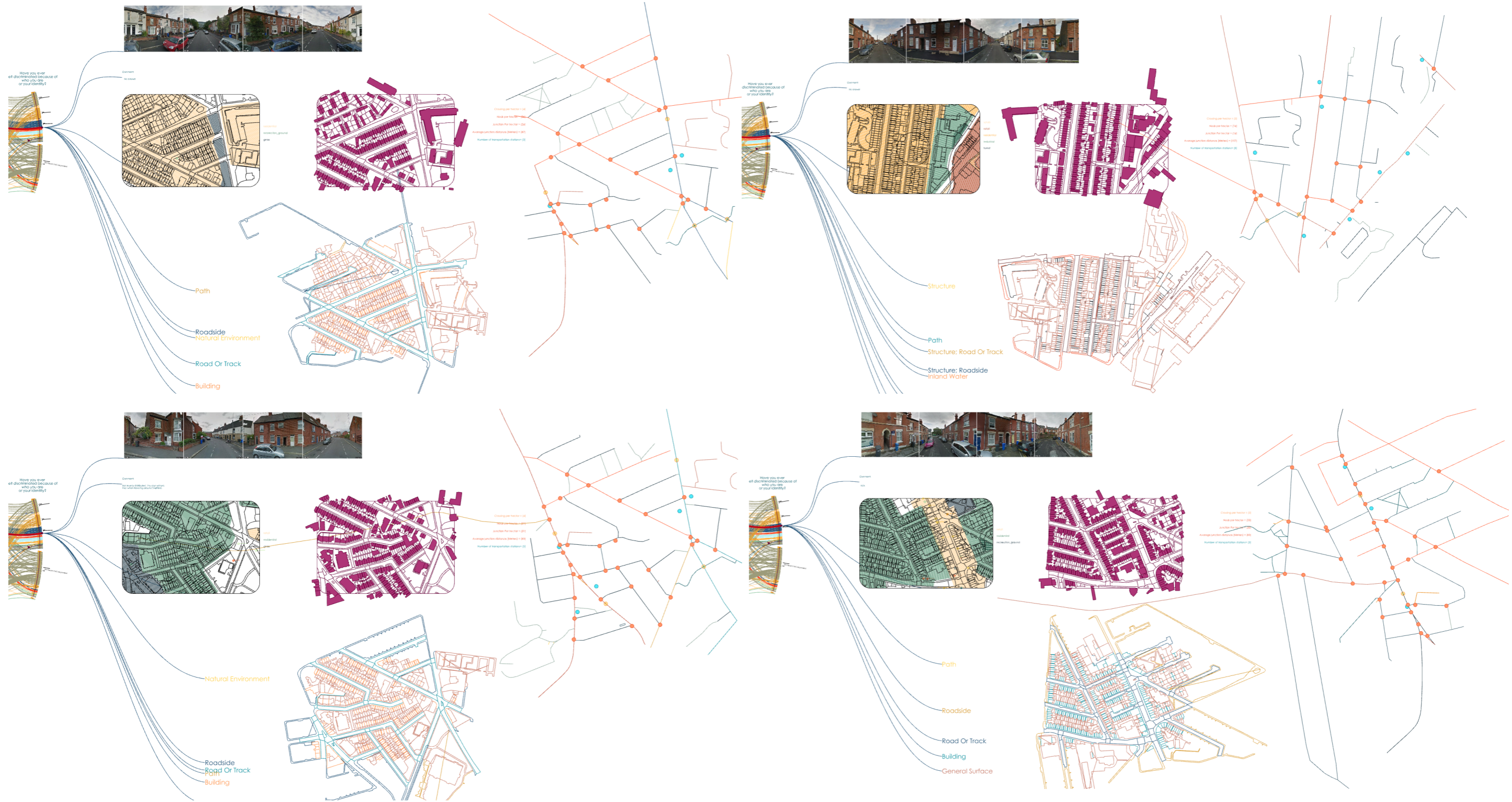
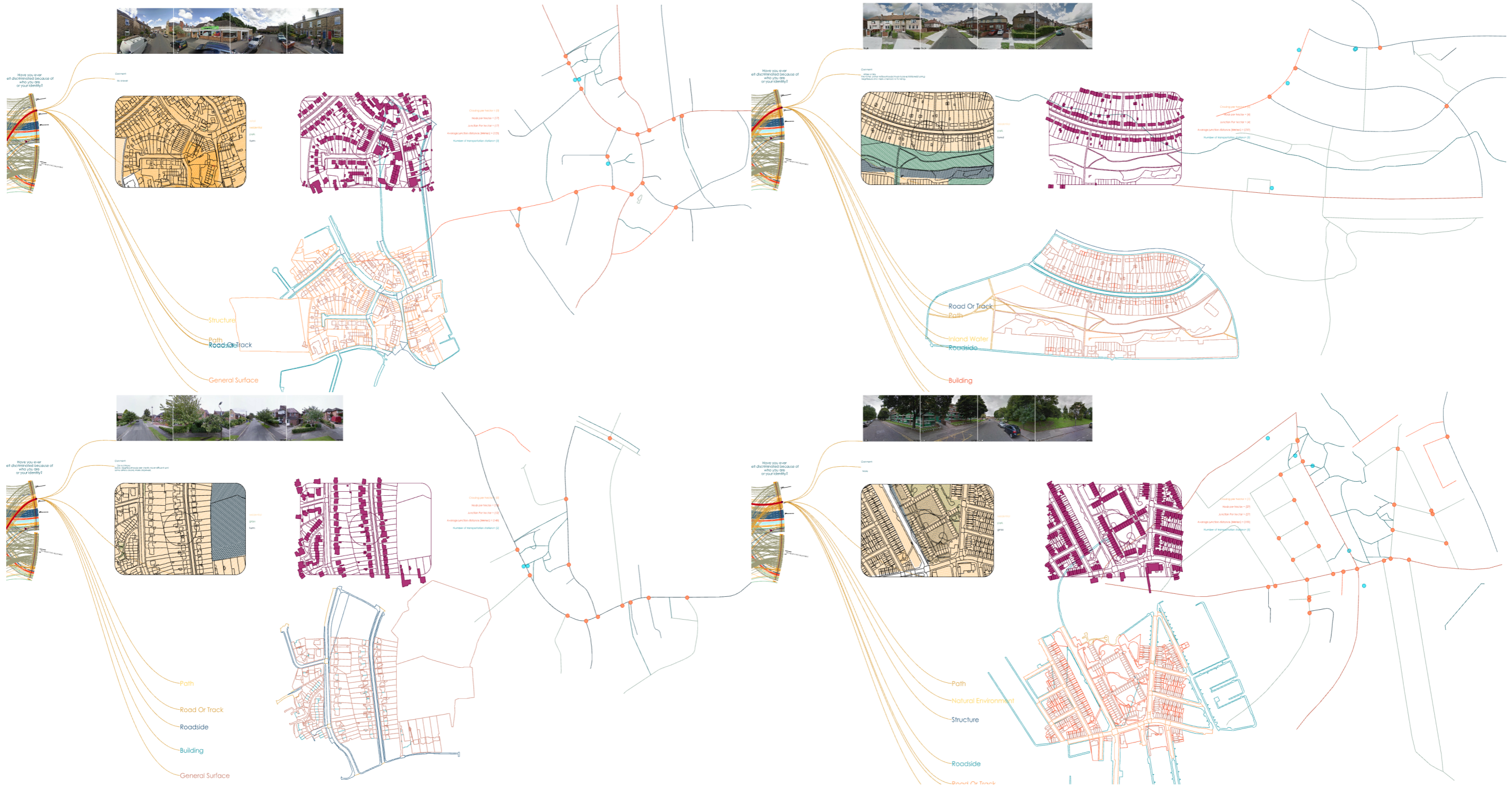


Figure 6-13 Examples of spatial analysis conducted for MEI and WEI.

MEI spatial analysis examples



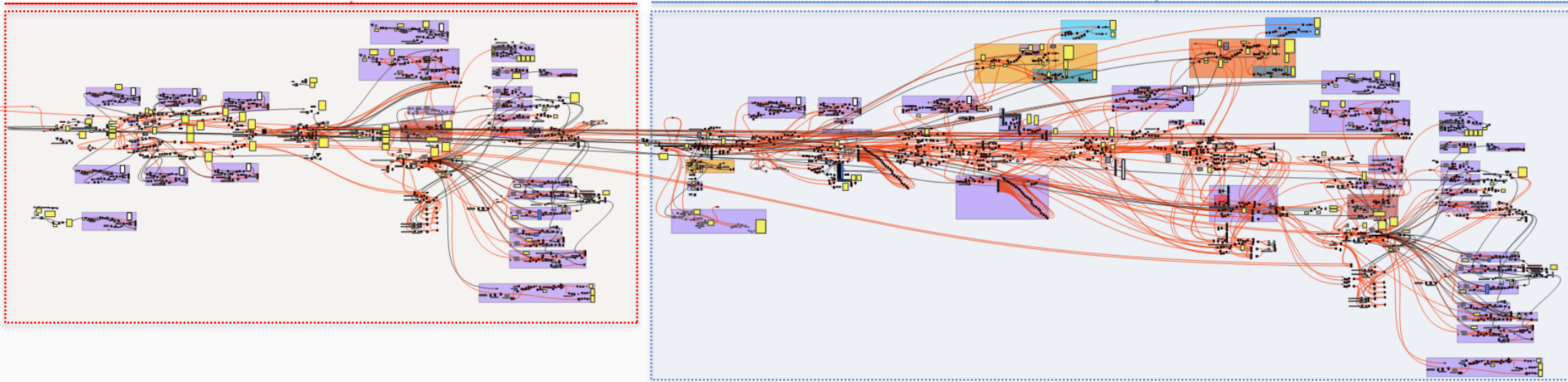
WEI spatial analysis examples



Appendix IV.b Mapping Multiplicity program code guide

Version 1

Version 2

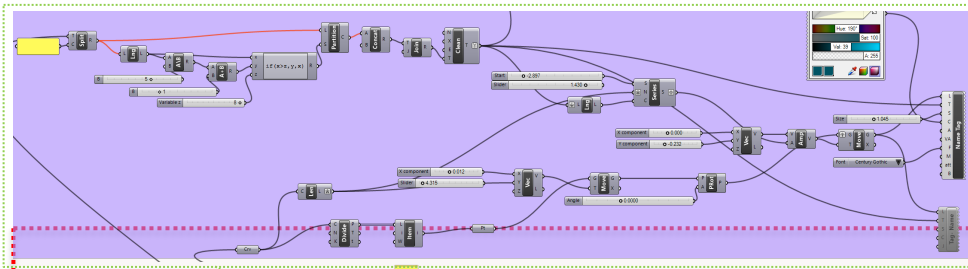


The Mapping Multiplicity coding started by developing V₁ (version 1) which maps and visualises relations between only two strata. The programming and development of the V₁ took 6 months including verifications and adding various features. After using V₁, I decided to add more features and thus further developed the program, which resulted in V₂. V₂ has a simplified code which increases the computation speed. I then added the possibility of representing multiple relations at the same time, allowing the user to automatically visualize relations among as many strata/qualities they desire. Moreover, in V₂ I have added the relational analysis feature, which represents relations between different qualities and provides users with the possibility to sort the strata from the strongest relations to the weakest. In the following I briefly explain various parts of the code and its functions. Thus, interested users can further customize, adopt and develop the mapping program for their personal needs.

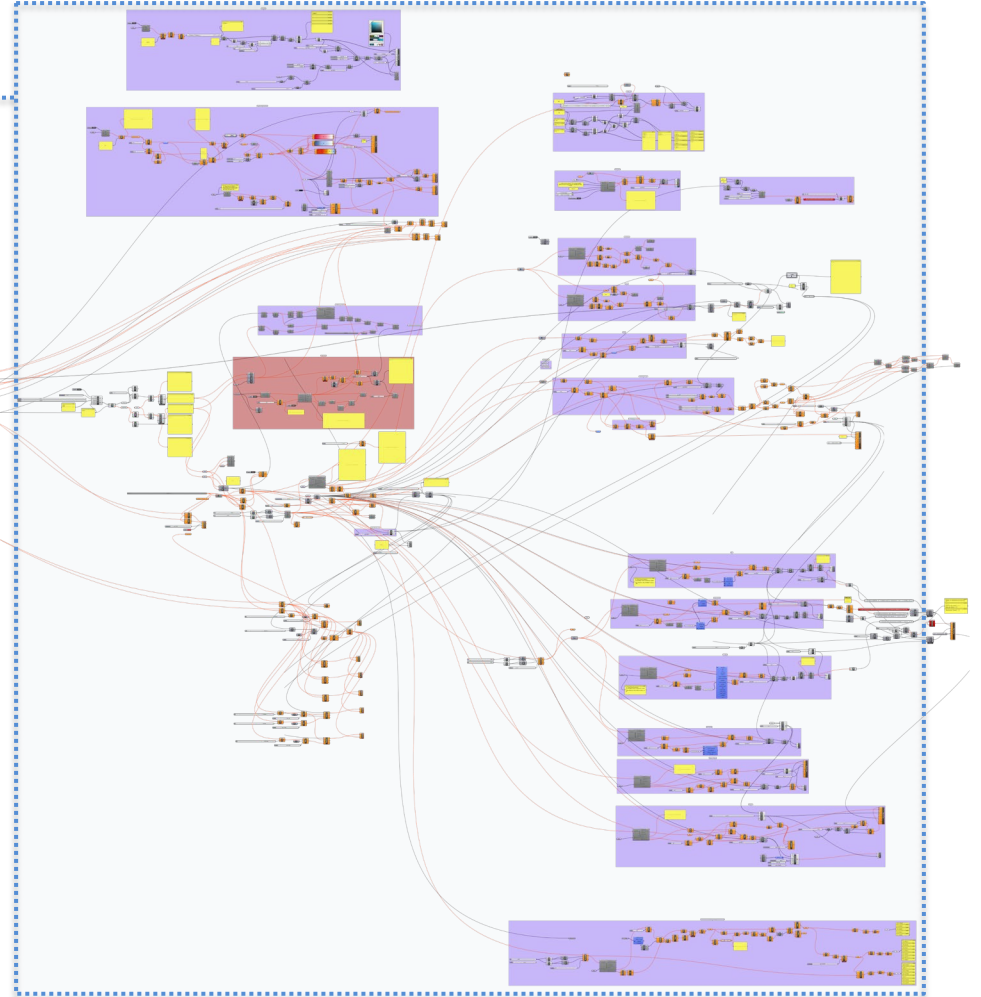
As can be seen in the following figures the V₁ program includes clusters of different programming nodes: in general, cluster C₁ on the left-hand side shows the coding

that visualizes social-political aspects, and on the right-hand side C₂ represents the spatial and physical aspects.

- C₁: Includes the main code that represents relations. The middle part of the code is responsible for visualising strata and lines. Starting on the left-hand side, it first reads the data, then categorizes them on the basis of the responses and divides them into various strata. Similar responses were put in the same assemblage and lines (each person) drawn between these various assemblages represent the relations between them. The 7 code groupings (in violet colour) represent codes that process and format (colouring, paragraphing) text for the strata (questions).
- C₂: After representing relations of political and social aspects and creating lines the data connects to C₂. This part of the code visualizes physical and spatial data in relation to C₁. Each group of code (in violet colour) represents one part of the spatial and physical aspects (which are named respectively inside the code for easier identification)



C2



Version 1 (V1)

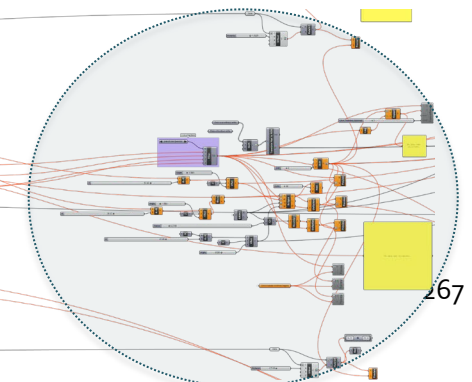
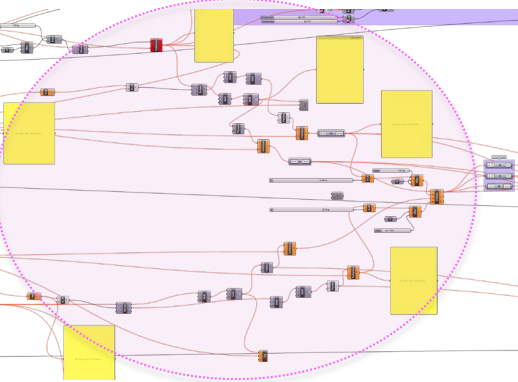
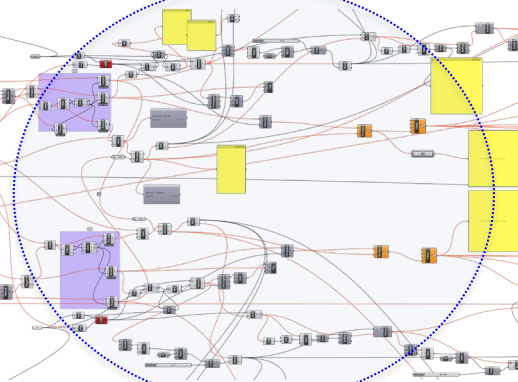
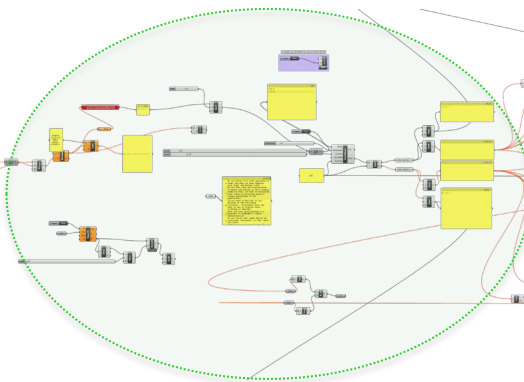
C1

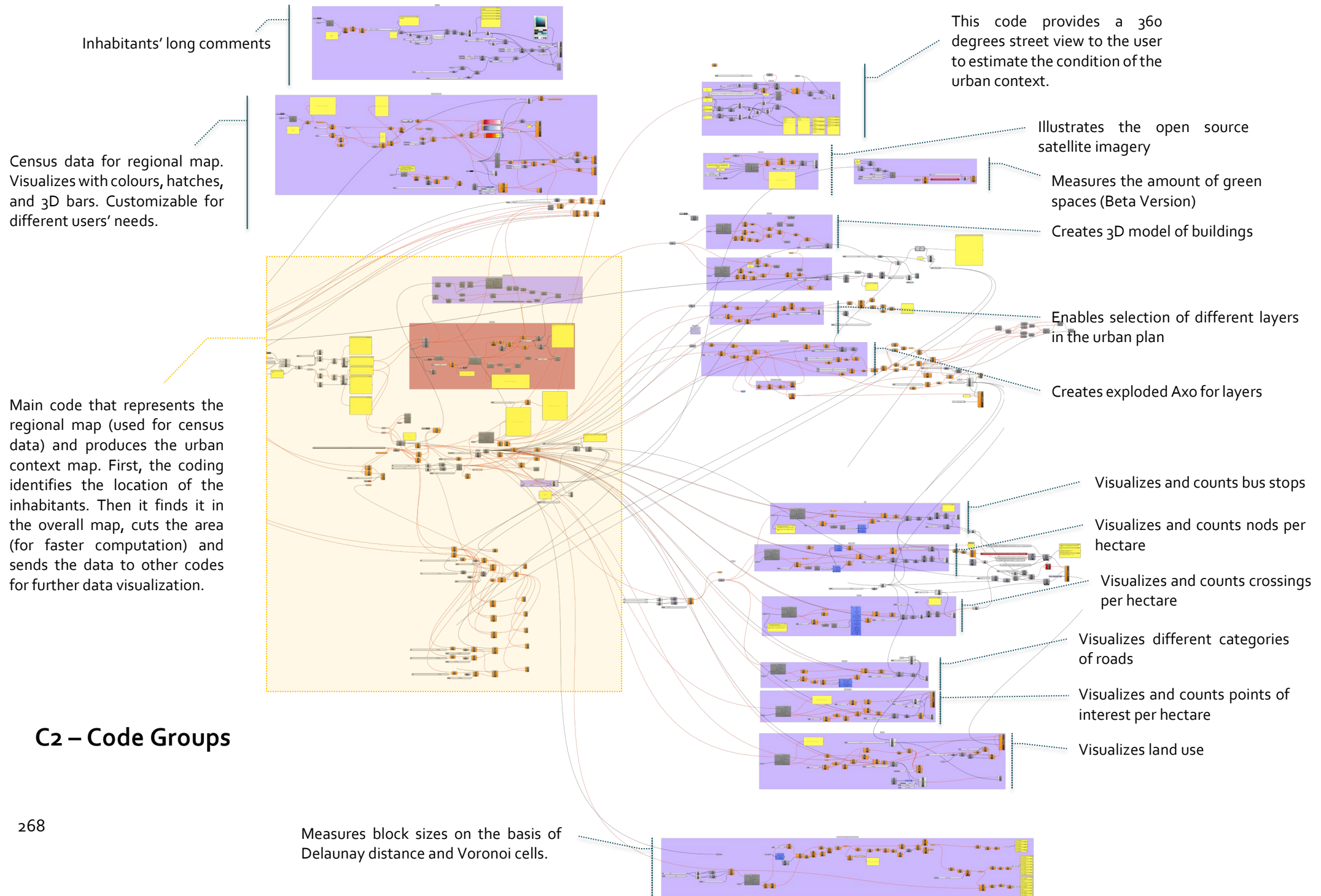
Reading and analysis
of data sheets

Analysis, categorizing and
assembling of strata

Drawing lines, nodes and bars

Colouring and customizing





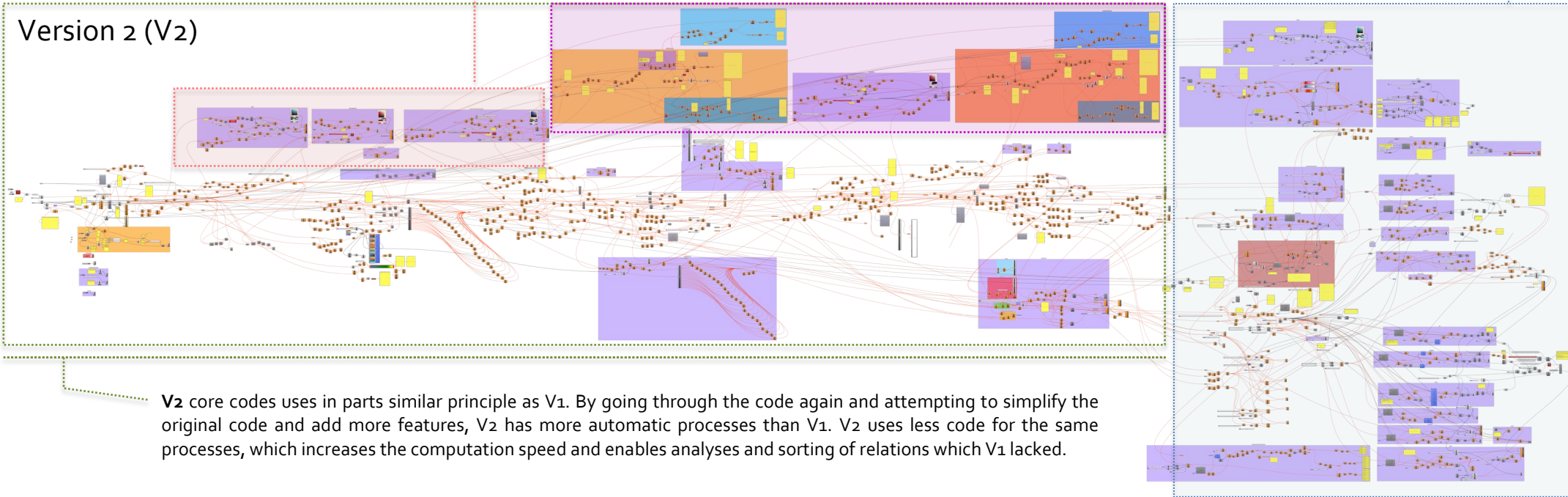
C2 – Code Groups

Codes for text, coloring and bars are reduced to 3 and can be used for all the strata rather than just two.

C3: These groups of code compute Relational Analyses and sort the relations from strongest to the weakest. The groups include one strata and two strata analysis, not only visualizing but also recording numeric data.

C2 code represents spatial and physical aspects. It is the same code as used for V1 but adapted for V2.

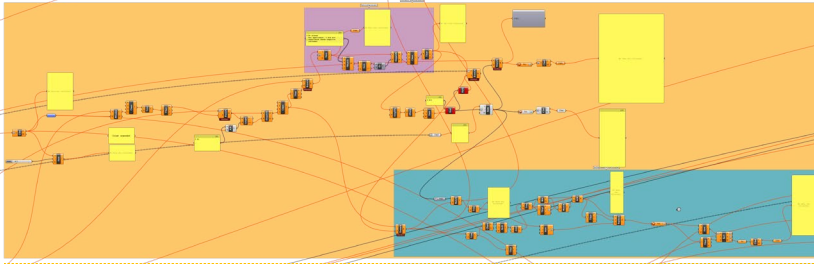
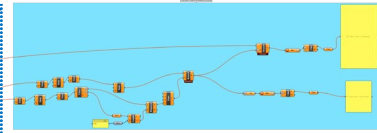
Version 2 (V2)



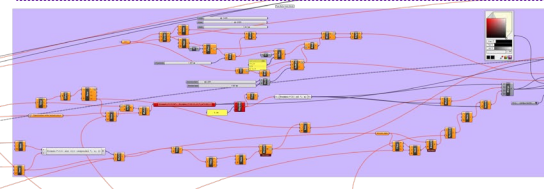
V2 core codes uses in parts similar principle as V1. By going through the code again and attempting to simplify the original code and add more features, V2 has more automatic processes than V1. V2 uses less code for the same processes, which increases the computation speed and enables analyses and sorting of relations which V1 lacked.

C3

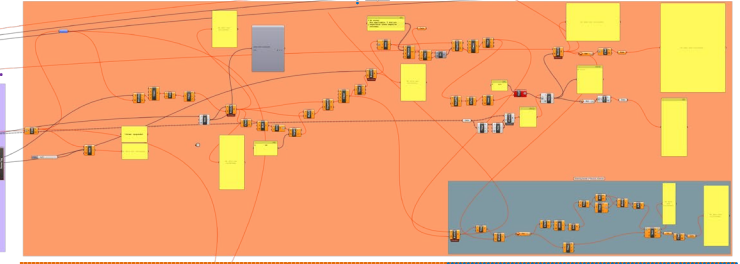
Visualizes the contrasting relation between two assemblage in one strata relational analysis. The results are recorded at the end of process.



Code group which analyses and writes the text and response percentages for two strata analysis. Similar code group works for one strata analysis that is located in the core V2 code.



Visualizes the contrasting relation between two assemblages created on the basis of two strata relational analysis.



One strata analysis which finds the relations of an assemblage to every other quality.

This group sorts the relations from strongest to weakest.

Two strata analysis which finds the relations of an assemblage that was chosen based on two qualities to every other quality.

This group sorts the relations from strongest to weakest.

V2 Core code

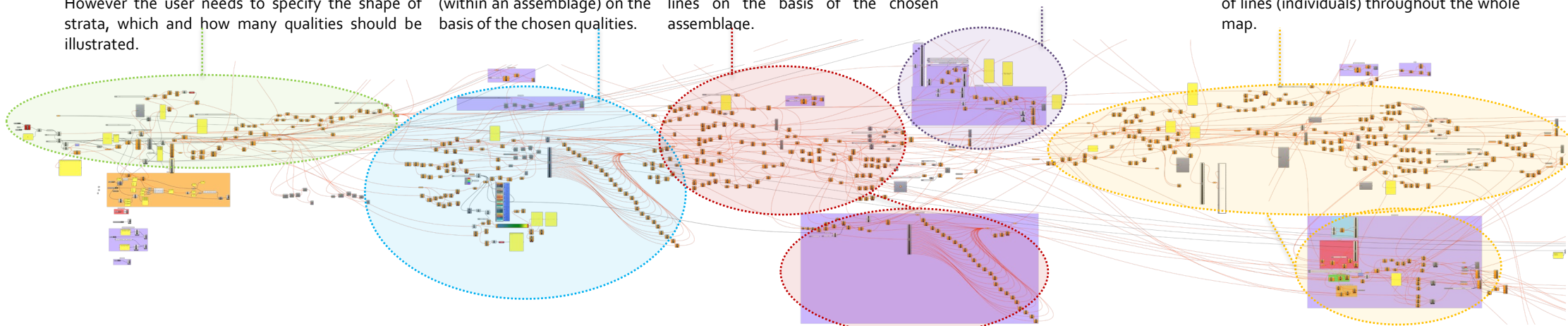
The code starts by reading the data from an excel sheet, measures the number of strata and assemblages and illustrates strata by offsetting the shape of the first line drawn by the user. In contrast with V1, the process is completely automatic. However the user needs to specify the shape of strata, which and how many qualities should be illustrated.

The group of code creates and arranges the assemblages and lines that represent relations between the first two qualities and then colours the lines (within an assemblage) on the basis of the chosen qualities.

The group of code creates and arranges the assemblages and lines that represent relations of previously chosen assemblage and all the other qualities/strata and then colours the lines on the basis of the chosen assemblage.

Code enables to select an individual or groups (other assemblages) within the whole visualization for a separate or closer investigation.

This group of code connects the individual, groups or assemblages created on the basis of one/two strata analysis to code groups of spatial and physical visualizations. These codes enable the continuous visualization of lines (individuals) throughout the whole map.



Appendix V Survey

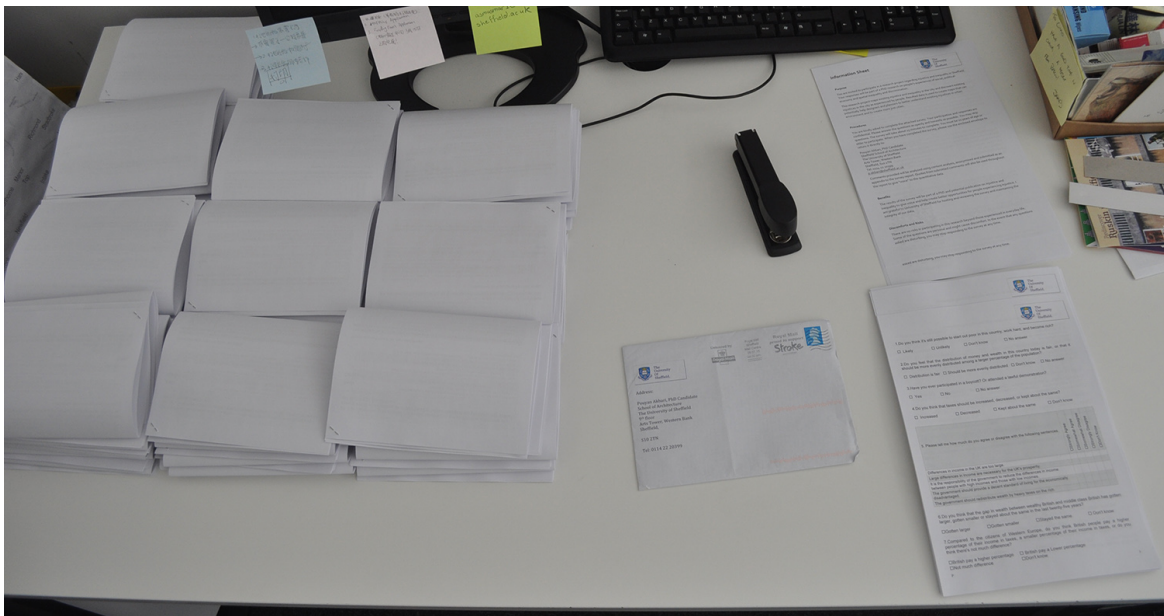
Questionnaires were used to provide width to the research, focusing on what people’s perception on the quality of life, social capital, inequality and injustice is. Demographic factors (age, gender, ethnicity) needed to be taken into consideration as well to connecting their perception of injustice and their situation. This survey took no more than 15 minutes.

I considered a variety of methods for collecting survey data to increase the response rate. Some were focused on specific places (case study areas), but also other residents and their understanding of injustice in Sheffield were deemed relevant.

Appendix V.a Methods of distribution

I used a variety of data collection methods including:

- **Mail based:** Questionnaires were given to households by posting the questionnaire and a return stamped envelope with my address in residents’ mailboxes. These households were in the case study neighbourhoods (Highfield (Sharrow), Parson Cross, Dore) and were randomly selected (for instance odd or even house numbers in a street).



- **Internet based:** The survey was also conducted through a digital version of the questionnaire on the Internet. It was distributed through email, websites and social media (Facebook, Twitter) presence of active neighbourhood communities. It was also provided as a link on the mail based and street surveys as another way of response in case the surveyed preferred to respond through the Internet.

Do you care about **injustice** in Sheffield?
Use your phone QR scanner

Scan me!


Or go to this link:
<http://goo.gl/JLNgsh>



Care about **injustice** in Sheffield?

Use your electronic device camera QR scanner

Scan me!



Or go to this link:
<http://goo.gl/JLNgsh>

Appendix V.b Survey questionnaire



Neighbourhood name:

Postcode S.....

1. Do you think it's still possible to start out poor in this country, work hard, and become rich?

- Likely Unlikely Don't know No answer

2. Do you feel that the distribution of money and wealth in this country today is fair, or that it should be more evenly distributed among a larger percentage of the population?

- Distribution is fair Should be more evenly distributed Don't know No answer

3. Have you ever participated in a boycott? Or attended a lawful demonstration?

- Yes No No answer

4. Do you think that taxes should be increased, decreased, or kept about the same?

- Increased Decreased Kept about the same Don't know

5. Please tell me how much do you agree or disagree with the following sentences.	<input type="checkbox"/> Strongly Agree	<input type="checkbox"/> Somewhat Agree	<input type="checkbox"/> Somewhat Disagree	<input type="checkbox"/> Strongly Disagree	<input type="checkbox"/> Don't Know
Differences in income in the UK are too large.					
Large differences in income are necessary for the UK's prosperity.					
It is the responsibility of the government to reduce the differences in income between people with high incomes and those with low incomes.					
The government should provide a decent standard of living for the economically disadvantaged.					
The government should redistribute wealth by heavy taxes on the rich					

6. Do you think that the gap in wealth between wealthy British and middle class British has gotten larger, gotten smaller or stayed about the same in the last twenty-five years?

- Gotten larger Gotten smaller Stayed the same Don't know

7. Compared to the citizens of Western Europe, do you think British people pay a higher percentage of their income in taxes, a smaller percentage of their income in taxes, or do you think there's not much difference?

- British pay a higher percentage British pay a Lower percentage
 Not much difference Don't know

8. Please tell me if you agree or disagree with the following statements.

The poor are poor because the British way of life doesn't give all people an equal chance.	<input type="checkbox"/> Agree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Don't know
Our freedom depends on the free enterprise system (Free Market/Capitalism).	<input type="checkbox"/> Agree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Don't know
Many poor people simply don't want to work hard.	<input type="checkbox"/> Agree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Don't know
One should always find ways to help others less fortunate than oneself.	<input type="checkbox"/> Agree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Don't know
I believe it is best not to get involved in taking care of other people's needs.	<input type="checkbox"/> Agree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Don't know
Public officials don't care much what people like me think.	<input type="checkbox"/> Agree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Don't know

9. Just for classification purposes. What is your occupation at the moment?

- Working full-time Working part-time Temporarily laid off Unemployed Retired
 Permanently disabled Student Other(specify).....
 Don't know No answer

10. What is your gender?

- Male Female Other.....

Socio-Cultural

11. What do you consider as your primary identity today?

- Cosmopolitan English British European Asian Middle Eastern African
 North America Latin American Other Please specify

12. Are you afraid of losing your national identity/culture?

Not afraid at all 0 1 2 3 4 5 6 7 8 9 10 Very much afraid
 (I don't mind)

13. Do you think that competition is good for people?

Harmful 0 1 2 3 4 5 6 7 8 9 10 Good
 (It has no effect)

14. Taking all things together, how happy are you?

Not at all happy 0 1 2 3 4 5 6 7 8 9 10 Very happy
 (Neutral)

15. Which geographic group do you feel you belong to most?

- Local/Town County Country Continent (European, Asian, American, African and etc.)
 World

16. What is your race/ethnicity?

- White Black or African British
 Middle Eastern Asian or Pacific Islander
 Latin American Multiracial or mixed race
 Other

17. Please rate in the following questions how important the topics are for you.	<input type="checkbox"/> Not at all important	<input type="checkbox"/> Not important	<input type="checkbox"/> Neutral	<input type="checkbox"/> Important	<input type="checkbox"/> Very important
How important is work in your life?					
How important is leisure time?					
How important is family?					
How important is religion in your life?					
How important are friends and acquaintances?					
How important are people in your neighbourhood?					

18. Do you experience injustice and unfairness in your daily life because of who you are or your identity?

- No Yes

If yes, how did / do you experience it?

- People are not fair to me Life is inherently unfair
 The place I am living is unjust Other, specify.....

19. Have you ever felt discriminated because of who you are or your identity?

- Yes No

20. What type of food do you usually consume? (Choose as many)

- Chinese Indian Japanese Thai Middle Eastern Turkish Fast food
 English European Vegetarian Homemade

21. Have you done any of the following to avoid discrimination?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Not Applicable
I avoid going to certain public places			
I changed jobs			
I have done something to avoid discrimination			
Act as different person (or different identity) than the normal me.			

22. Please check whether you have experienced any of the following in these public spaces in Sheffield because of who you are or your identity. (Mark all that apply.)	<input type="checkbox"/> Felt unwelcomed by people	<input type="checkbox"/> Denied equal treatment or service	<input type="checkbox"/> Verbally harassed or disrespected	<input type="checkbox"/> Physically attacked or assaulted	<input type="checkbox"/> Not applicable. I have not tried to access this.	<input type="checkbox"/> Not applicable. I did not experience these negative outcomes.
Street and public spaces						
Local community						
Parks and green spaces						
Public facilities such as library						
Retail store						
Restaurant, pub or coffee shop						
Bus, train or taxi						
Airplane or airport staff						
Doctor's office or hospital						
Homeless shelter/program						
Govt. agency/official						
Police						

23. What is your religious preference?

- | | | |
|---|---|-----------------------------------|
| <input type="checkbox"/> Christianity | <input type="checkbox"/> Islam | <input type="checkbox"/> Judaism |
| <input type="checkbox"/> Hinduism | <input type="checkbox"/> Sikhism | <input type="checkbox"/> Buddhism |
| <input type="checkbox"/> None/No religion | <input type="checkbox"/> Other (Specify)..... | |
| <input type="checkbox"/> Don't Know | <input type="checkbox"/> Prefer not to say | |

Spatial Aspect

24. How satisfied are you with the following in your neighbourhood:	<input type="checkbox"/> Very satisfied	<input type="checkbox"/> Satisfied	<input type="checkbox"/> Neutral	<input type="checkbox"/> Not satisfied	<input type="checkbox"/> Not satisfied at all
Restaurants, coffee shops, pubs					
Safety					
Transportation					
Public spaces					
Recreation					
Green Space					
Shopping					
Amenities for instance schools or medical services					
How satisfied are you generally with your neighbourhood?					

25. Please tell me how much you agree or disagree with the following sentences:	<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Agree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly disagree	<input type="checkbox"/> Don't know
Residents in my neighbourhood are ethnically diverse.					
Residents in my area are willing to help their neighbours.					
This neighbourhood is better in comparison to where I used to live.					
I enjoy taking walks through my neighbourhood.					
There is no other neighbourhood I would rather live.					
Residents in this neighbourhood generally don't get along with each other.					
Residents in this neighbourhood can be trusted.					
Residents in my neighbourhood are accepting and welcoming to diverse backgrounds of people.					

26. Please tell me how likely or unlikely the following sentences are:	<input type="checkbox"/> Very likely	<input type="checkbox"/> Likely	<input type="checkbox"/> Unlikely	<input type="checkbox"/> Very unlikely	<input type="checkbox"/> Don't know
How likely is it for you to join a community group in your neighbourhood involving in recreational, cultural and social activities?					
How likely is it for your neighbours to help someone in need in your neighbourhood?					
If a group of children were spray-painting graffiti on a local building, how likely is it that you/your neighbours would do something?					
If there was a fight in front of your house and someone was being threatened, how likely is it that you or your neighbours would intervene?					
If an accident (car accident, fire, ...) happened in your vicinity how likely is it for your neighbours to help?					

27. Please tell me how you would like taxes being used to help pay for each of the following in your current neighbourhood. Whether you feel spending should be expanded, cut back, or kept about the same?	<input type="checkbox"/> Expanded	<input type="checkbox"/> Cut back	<input type="checkbox"/> Kept same	<input type="checkbox"/> Don't know	<input type="checkbox"/> No answer
Public spaces					
Green spaces					
Public facilities					
Infrastructure					
Pavement & road improvement					
Leisure & entertainment facilities					
Façade improvement					
Amenities for instance schools or medical services					
Transportation (buses & tram)					
Lighting					
Recycling facilities					
Community activities					

28. Do you think neighbourhoods in Sheffield are developed evenly or some neighbourhoods receive more investment (development programs/funds) than the others? What makes you think that way?

29. If you would like to be involved in a deeper conversation and an interview on injustice and inequality in Sheffield, please leave your Email or contact number. If not you can just go ahead and submit your questionnaire.

Email:.....

Contact info:

Thank you very much for your responses.

This will help us to understand injustice and inequality in the city and give voice to those who are affected by inequality and injustice in the city.

Appendix V.c Questionnaire data

#	Do you think it's still possible to start our poor in this country, work hard, and become rich?	Do you tend to believe or not believe in the following statement: that no one is without food, clothing or shelter?	Have you ever participated in a boycott? Or attended a lawful demonstration?	Do you think that taxes should be increased, decreased, or kept about the same?	Differences in income in the UK are too large.	Large differences in income are necessary for the UK's prosperity.	It is the responsibility of the government to reduce the differences in income between people with high incomes and those with low incomes.	The government should provide a decent standard of living for the economically disadvantaged.	The government should redistribute wealth by heavy taxes on the rich.	Do you think that the gap in wealth between wealthy British and middle-class British has gotten larger, gotten smaller or stayed about the same in the last twenty-five years?	Compared to the citizens of Western Europe, do you think British people pay a higher percentage of their income in taxes, a smaller percentage of their income in taxes, or do you think there's not much difference?
16ea453a	Unlikely	Do not believe	Yes	Decreased	Strongly Agree	Strongly Disagree	Strongly Agree	Strongly Agree	Strongly Agree	Gotten larger	British pay a higher percentage
304d0a07	Unlikely	Believe	Yes	Decreased	Strongly Agree	Strongly Disagree	Somewhat Agree	Somewhat Agree	Strongly Agree	Gotten larger	British pay a higher percentage
ab83172a	Do not know	Believe	No	Do not know	Do not know	Somewhat Agree	Somewhat Agree	Somewhat Agree	Somewhat Disagree	Do not know	Not much difference
51c31a5d	Unlikely	Believe	No	Do not know	Somewhat Agree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Do not know	Not much difference
761905606	Likely	Believe	Yes	Increased	Strongly Agree	Strongly Disagree	Strongly Agree	Strongly Agree	Strongly Agree	Gotten larger	British pay a lower percentage
99321770c	Likely	Believe	No	Increased	Strongly Agree	Strongly Disagree	Somewhat Agree	Somewhat Agree	Somewhat Agree	Gotten larger	British pay a lower percentage
230445c5e	Likely	Do not believe	Yes	Kept about the same	Strongly Agree	Somewhat Disagree	Somewhat Disagree	Do not know	Somewhat Agree	Gotten larger	British pay a lower percentage
49c2c27be	Unlikely	Believe	No answer	Kept about the same	Somewhat Agree	Somewhat Disagree	Somewhat Disagree	Strongly Agree	Do not know	Do not know	British pay a lower percentage
ce637a286	Likely	Do not believe	Yes	Do not know	Strongly Agree	Strongly Disagree	Somewhat Agree	Somewhat Agree	Somewhat Agree	Do not know	British pay a lower percentage
21ba17c98	Do not know	Do not believe	No	Do not know	Somewhat Agree	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Gotten larger	Do not know
26b96e2d8	Likely	Believe	No	Decreased	Somewhat Agree	Strongly Disagree	Somewhat Disagree	Strongly Agree	Somewhat Agree	Gotten larger	Do not know
ac5112101	Unlikely	Believe	Yes	Increased	Strongly Agree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Gotten larger	Do not know
7730b1938	Likely	Believe	Yes	Kept about the same	Somewhat Agree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Gotten smaller	Do not know
0943f0f3c	Likely	Believe	Yes	Decreased	Somewhat Agree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Somewhat Disagree	Gotten larger	British pay a higher percentage
6da2c47e9	Unlikely	Believe	Yes	Decreased	Strongly Agree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Somewhat Agree	Do not know	Do not know
bbae8891e	Likely	Do not believe	No	Decreased	Strongly Agree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Gotten larger	British pay a higher percentage
eba02752a	Unlikely	Believe	No	Kept about the same	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Do not know	Do not know
eba561548	Unlikely	Believe	Yes	Increased	Strongly Agree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Gotten larger	British pay a lower percentage
f029ab60	Unlikely	Believe	Yes	Increased	Strongly Agree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Gotten larger	Do not know
c7e93b85c	Likely	Do not believe	No	Increased	Somewhat Agree	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Strongly Disagree	Gotten larger	British pay a lower percentage
f94b1772d	Likely	Believe	No	Do not know	Somewhat Agree	Do not know	Do not know	Do not know	Do not know	Stayed the same	British pay a lower percentage
e5532c5d1	Unlikely	Believe	No	Do not know	Somewhat Agree	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Do not know	Do not know	Do not know
8f12c4d0f	Unlikely	Do not believe	Yes	Decreased	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Strongly Disagree	Gotten larger	Do not know
918c604c1	Unlikely	Believe	No	Kept about the same	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Strongly Disagree	Somewhat Disagree	Gotten larger	Not much difference
48f9dea74	Unlikely	Do not believe	No	Increased	Strongly Disagree	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Strongly Disagree	Do not know	Do not know
70cd7dbec	Unlikely	Believe	No	Decreased	Somewhat Disagree	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Strongly Disagree	Do not know	Not much difference
51453a285	Do not know	Believe	No	Decreased	Strongly Disagree	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Strongly Disagree	Stayed the same	British pay a higher percentage
2f2c9257b	No answer	Believe	Yes	Increased	Strongly Agree	Do not know	Strongly Disagree	Strongly Disagree	Somewhat Disagree	Gotten larger	Do not know
f4ad5263	Do not know	Do not believe	No	Decreased	Somewhat Agree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Gotten larger	Do not know
36bb86cd4	Likely	Believe	No	Decreased	Somewhat Agree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Strongly Disagree	Do not know	Do not know
83c8d723c	Likely	Believe	No	Kept about the same	Somewhat Agree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Strongly Disagree	Stayed the same	Do not know
b2808f96e	Unlikely	Believe	No	Kept about the same	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Gotten larger	Do not know
48f9dea74	Unlikely	Do not believe	No	Decreased	Strongly Disagree	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Strongly Disagree	Gotten larger	British pay a higher percentage
e91f08b09	Unlikely	No answer	No	Decreased	Somewhat Disagree	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Gotten smaller	Not much difference
439197b05	Unlikely	Believe	Yes	Increased	Strongly Disagree	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Do not know	British pay a higher percentage
895f0331	Do not know	Do not believe	No	Decreased	Somewhat Agree	Strongly Disagree	Strongly Disagree	Somewhat Disagree	Strongly Disagree	Gotten larger	British pay a lower percentage
483a8a646	Do not know	Do not believe	No	Decreased	Somewhat Agree	Strongly Disagree	Strongly Disagree	Somewhat Disagree	Strongly Disagree	Gotten larger	British pay a higher percentage
4dcca32ca	No answer	Believe	No	Kept about the same	Somewhat Agree	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Do not know	British pay a higher percentage
e313d1175	Unlikely	Believe	No	Kept about the same	Somewhat Agree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Do not know	Do not know
b35162c96	Unlikely	Believe	No	Decreased	Somewhat Disagree	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Do not know	Do not know
26957c761	Unlikely	Do not believe	No	Decreased	Strongly Agree	Somewhat Disagree	Strongly Disagree	Strongly Disagree	Somewhat Disagree	Gotten smaller	British pay a higher percentage
865b603c	Unlikely	Believe	Yes	Increased	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Somewhat Disagree	Gotten larger	British pay a higher percentage
bb8b7411	Unlikely	Believe	Yes	Increased	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Gotten larger	British pay a higher percentage
8d4c3b2d	Likely	Do not believe	No	Decreased	Somewhat Disagree	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Do not know	Not much difference
650c21b66	Unlikely	Believe	No	Decreased	Somewhat Disagree	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Do not know	Not much difference
46a1a416f	Do not know	Do not know	Yes	Decreased	Somewhat Disagree	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Do not know	British pay a higher percentage
9f5894626	Likely	Believe	No	Kept about the same	Somewhat Disagree	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Gotten larger	Do not know
94c5d4b43	Unlikely	Believe	No	Kept about the same	Somewhat Disagree	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Gotten larger	Do not know
b7a9c967b	Likely	Believe	No	Kept about the same	Somewhat Disagree	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Gotten larger	Not much difference
37779d03f	Likely	Do not believe	No	Do not know	Somewhat Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Somewhat Disagree	Do not know	Do not know
4d17be09e	Likely	Believe	No	Do not know	Somewhat Disagree	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Do not know	Do not know
f627b9871	Likely	Believe	Yes	Do not know	Somewhat Disagree	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Do not know	Do not know
cb915a4d5	Unlikely	Believe	Yes	Do not know	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Somewhat Disagree	Gotten larger	British pay a lower percentage
1704b145c	Likely	Believe	No	Kept about the same	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Somewhat Disagree	Gotten larger	British pay a lower percentage
c5c203560	No answer	Believe	No answer	Do not know	Somewhat Disagree	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Do not know	Not much difference
ce6af6a37	Likely	Believe	Yes	Decreased	Somewhat Disagree	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Gotten larger	Not much difference
4919766db	Unlikely	Believe	No	Decreased	Somewhat Disagree	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Gotten larger	British pay a higher percentage
4643b77ad	Likely	Believe	No	Decreased	Strongly Disagree	Strongly Disagree	Somewhat Disagree	Strongly Disagree	Strongly Disagree	Gotten larger	British pay a higher percentage
6a7cc6e60	Likely	Believe	Yes	Do not know	Strongly Disagree	Strongly Disagree	Somewhat Disagree	Strongly Disagree	Strongly Disagree	Gotten larger	British pay a higher percentage
263483867	Unlikely	Believe	No	Do not know	Strongly Disagree	Strongly Disagree	Somewhat Disagree	Strongly Disagree	Somewhat Disagree	Do not know	Not much difference
83bfedcb	Unlikely	Believe	Yes	Do not know	Strongly Disagree	Strongly Disagree	Somewhat Disagree	Strongly Disagree	Somewhat Disagree	Gotten larger	Not much difference
cd8a3a303	Do not know	Believe	Yes	Kept about the same	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Somewhat Disagree	Gotten larger	British pay a lower percentage
39d6c18ea	Unlikely	Believe	Yes	Do not know	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Somewhat Disagree	Gotten smaller	British pay a higher percentage
b511608bb	Unlikely	Believe	Yes	Increased	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Gotten larger	No answer
6e7406c88	Unlikely	Believe	No	Kept about the same	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Gotten larger	British pay a lower percentage
0b27a2051	Unlikely	Believe	Yes	Increased	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Gotten larger	British pay a lower percentage

82b753924.Likely	Believe	Increased	Strongly Agree	Somewhat Agree	Strongly Agree	Gotten larger	British pay a lower percentage
a2771e71c.Likely	Believe	Increased	Strongly Agree	Strongly Agree	Somewhat Agree	Do not know	British pay a higher percentage
49861961e.Unlikely	Believe	Decreased	Strongly Agree	Strongly Agree	Strongly Agree	Gotten larger	British pay a higher percentage
a74065628.Unlikely	Do not believe	Increased	Strongly Agree	Strongly Agree	Strongly Agree	Gotten larger	British pay a lower percentage
cd11ea195.Unlikely	Believe	Increased	Somewhat Agree	Somewhat Disagree	Somewhat Agree	Do not know	Do not know
f12c33967.Do not know	Believe	Increased	Strongly Agree	Strongly Agree	Strongly Agree	Do not know	Do not know
56455452.Likely	Believe	Increased	Strongly Agree	Somewhat Agree	Somewhat Agree	Gotten larger	British pay a lower percentage
17eae670.Do not know	Believe	Kept about the same	Strongly Agree	Somewhat Disagree	Somewhat Agree	Stayed the same	Not much difference
5115383f6.Unlikely	Believe	Kept about the same	Strongly Agree	Somewhat Agree	Somewhat Agree	Gotten larger	Do not know
f55ee6f186.Do not know	Believe	Increased	Strongly Agree	Somewhat Agree	Strongly Agree	Gotten larger	British pay a lower percentage
0d2ef73d.Unlikely	Believe	Increased	Strongly Agree	Somewhat Agree	Somewhat Agree	Gotten larger	British pay a lower percentage
2d8e2ae51.Unlikely	Believe	Increased	Strongly Agree	Somewhat Agree	Somewhat Agree	Gotten larger	British pay a lower percentage
a9d7484f.Unlikely	Believe	Increased	Strongly Agree	Strongly Agree	Strongly Agree	Gotten larger	British pay a lower percentage
b7760ca8b.Likely	Believe	Increased	Strongly Agree	Strongly Agree	Strongly Agree	Gotten larger	British pay a lower percentage
06f8668f9.Unlikely	Do not know	Do not know	Strongly Agree	Somewhat Agree	Do not know	Gotten larger	Do not know
371be6747.Likely	Believe	Decreased	Strongly Agree	Strongly Agree	Somewhat Agree	Do not know	Do not know
1eaaf4e17.Likely	Do not know	Kept about the same	Strongly Disagree	Somewhat Disagree	Somewhat Agree	Stayed the same	British pay a higher percentage
8041369b.Likely	Believe	Decreased	Strongly Disagree	Somewhat Disagree	Strongly Agree	Gotten larger	Do not know
bae5ca424.Unlikely	Believe	Kept about the same	Strongly Disagree	Somewhat Disagree	Strongly Agree	Do not know	Do not know
bc32285f1.Likely	Believe	Decreased	Strongly Agree	Strongly Agree	Somewhat Agree	Gotten larger	British pay a higher percentage
04283d4d7.Likely	Believe	Kept about the same	Strongly Agree	Somewhat Agree	Strongly Agree	Do not know	Do not know
d811c1bdc.Do not know	Do not believe	Kept about the same	Somewhat Disagree	Somewhat Disagree	Somewhat Agree	Gotten larger	British pay a lower percentage
a01ae3d09.Unlikely	Believe	Do not know	Strongly Agree	Strongly Agree	Strongly Agree	Do not know	Do not know
be62a40c4.Do not know	Believe	Kept about the same	Strongly Agree	Somewhat Agree	Strongly Agree	Gotten larger	Do not know
1f1be9eb4.Likely	Believe	Decreased	Somewhat Disagree	Somewhat Disagree	Strongly Disagree	Stayed the same	British pay a higher percentage
f63002e9d.Unlikely	Believe	Increased	Strongly Agree	Strongly Agree	Strongly Agree	Gotten larger	Not much difference
1291e192f.Unlikely	Believe	Decreased	Somewhat Agree	Somewhat Agree	Strongly Agree	Gotten larger	Not much difference
79a54360d.Unlikely	Believe	Decreased	Somewhat Agree	Somewhat Agree	Somewhat Agree	Do not know	British pay a higher percentage
2d797f452.Likely	Believe	Increased	Strongly Agree	Strongly Agree	Strongly Agree	Gotten larger	British pay a lower percentage
596e563f0.Likely	Believe	Do not know	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Gotten larger	British pay a higher percentage
73644f5f2.Unlikely	Believe	Kept about the same	Somewhat Agree	Somewhat Disagree	Strongly Agree	Gotten larger	British pay a higher percentage
a97c1bb5b.Likely	Believe	Increased	Somewhat Agree	Somewhat Disagree	Somewhat Disagree	Gotten larger	Not much difference
82b1fd432.Likely	Do not believe	Decreased	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Do not know	Do not know
963020766.Unlikely	Believe	Increased	Strongly Agree	Somewhat Disagree	Strongly Agree	Gotten larger	Do not know
4767df5ae.Unlikely	Believe	Increased	Strongly Agree	Somewhat Agree	Somewhat Disagree	Gotten larger	British pay a lower percentage
7b60f9b16.Likely	Believe	Decreased	Strongly Agree	Strongly Disagree	Somewhat Agree	Gotten larger	Not much difference
3f8f93aa7e.Likely	Believe	Increased	Somewhat Disagree	Somewhat Agree	Somewhat Disagree	Gotten larger	British pay a lower percentage
5ab865c1.Unlikely	Believe	Increased	Strongly Disagree	Strongly Disagree	Strongly Agree	Gotten larger	British pay a lower percentage
765df9647.Unlikely	Believe	Do not know	Strongly Agree	Somewhat Agree	Strongly Disagree	Gotten larger	Do not know
3d186a15f.Likely	Believe	Increased	Strongly Agree	Somewhat Agree	Strongly Agree	Gotten larger	Not much difference
c77530410.Likely	Believe	Decreased	Strongly Agree	Somewhat Agree	Somewhat Agree	Gotten larger	British pay a higher percentage
e87c9357e.Likely	Do not believe	Kept about the same	Somewhat Agree	Somewhat Disagree	Somewhat Disagree	Do not know	Do not know
0ab2e5f41.Likely	Believe	Decreased	Somewhat Disagree	Strongly Disagree	Strongly Disagree	Gotten larger	Do not know
e7f8b1644.Do not know	Believe	Do not know	Strongly Disagree	Somewhat Disagree	Strongly Agree	Do not know	Do not know
4e159a355.Unlikely	Believe	Increased	Strongly Disagree	Somewhat Disagree	Strongly Agree	Gotten larger	British pay a lower percentage
bdf20758.No answer	No answer	No answer	Somewhat Disagree	Strongly Disagree	Strongly Agree	Gotten larger	Do not know
31885931f.Likely	Believe	Increased	Strongly Agree	Strongly Disagree	Strongly Agree	Gotten larger	British pay a lower percentage
d8a23bb5f.Likely	Believe	Kept about the same	Somewhat Disagree	Strongly Disagree	Somewhat Agree	Gotten larger	Not much difference
23e793a8d.Unlikely	Believe	Do not know	Somewhat Agree	Somewhat Disagree	Somewhat Disagree	Gotten larger	Not much difference
3e478e0b.Unlikely	Believe	Increased	Strongly Agree	Somewhat Disagree	Strongly Agree	Gotten larger	British pay a lower percentage
4d422a88e.Do not know	Believe	Decreased	Strongly Agree	Strongly Disagree	Do not know	Do not know	British pay a higher percentage
9c15eod2b.Likely	Believe	Kept about the same	Strongly Agree	Strongly Disagree	Strongly Agree	Gotten larger	Do not know
6e30a377e.Likely	Believe	Kept about the same	Strongly Agree	Somewhat Disagree	Somewhat Agree	Gotten larger	British pay a lower percentage
84401e11.Unlikely	Believe	Kept about the same	Somewhat Agree	Somewhat Disagree	Somewhat Agree	Gotten larger	Not much difference
55c4540b2.Likely	Believe	Kept about the same	Strongly Agree	Strongly Disagree	Strongly Agree	Gotten larger	Not much difference
0a6930e175.Unlikely	Believe	Kept about the same	Somewhat Agree	Somewhat Disagree	Somewhat Agree	Gotten larger	British pay a lower percentage
a952026c2.Likely	Believe	Decreased	Strongly Agree	Somewhat Disagree	Somewhat Disagree	Gotten larger	British pay a higher percentage
6df660c37.Unlikely	Do not believe	Decreased	Strongly Disagree	Somewhat Disagree	Strongly Agree	Gotten smaller	British pay a higher percentage
c5a4a815.Likely	Believe	Increased	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Stayed the same	British pay a lower percentage
29266c9d5.Likely	Believe	Decreased	Strongly Disagree	Strongly Disagree	Strongly Agree	Gotten larger	British pay a higher percentage
a430f0ba.Unlikely	Believe	Decreased	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Gotten larger	British pay a higher percentage
4798210az.Unlikely	Believe	Kept about the same	Strongly Disagree	Strongly Disagree	Strongly Agree	Gotten larger	British pay a lower percentage
6af0255c71.Likely	Believe	Kept about the same	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Stayed the same	No answer
e82a2356.Do not know	Believe	Do not know	Strongly Disagree	Strongly Disagree	Strongly Agree	Gotten larger	Do not know
711a4d0a.Unlikely	Believe	Increased	Strongly Agree	Strongly Disagree	Somewhat Agree	Gotten larger	British pay a lower percentage
79466875.Unlikely	Do not believe	No answer	Somewhat Disagree	Somewhat Disagree	Strongly Agree	Do not know	Do not know
c5488d384.Likely	Believe	Kept about the same	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Gotten larger	British pay a lower percentage
6c3af603d.Unlikely	Believe	Kept about the same	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Stayed the same	Not much difference

b92b18b0z	Likely	No answer	No	Kept about the same	Strongly Agree	Somewhat Agree	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Gotten smaller	Not much difference
073fc3125	No answer	Believe	Yes	Increased	Strongly Agree	Somewhat Disagree	Strongly Agree	Somewhat Agree	Strongly Agree	Gotten larger	British pay a lower percentage
402091e8f	Likely	Believe	Yes	Kept about the same	Strongly Agree	Somewhat Agree	Strongly Agree	Strongly Agree	Strongly Agree	Gotten larger	Do not know
bl492753f	Likely	Believe	No	Decreased	Somewhat Agree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Stayed the same	British pay a higher percentage
1922551a5	Unlikely	No answer	Yes	Increased	Strongly Agree	Somewhat Disagree	Somewhat Agree	Strongly Agree	Strongly Agree	Do not know	British pay a lower percentage
0fa7942a	Unlikely	Believe	Yes	Increased	Strongly Agree	Strongly Disagree	Strongly Disagree	Strongly Agree	Strongly Agree	Gotten larger	British pay a lower percentage
d51e00351	Likely	Believe	Yes	Kept about the same	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Agree	Somewhat Agree	Gotten larger	Not much difference
f3d354dd4	Unlikely	Believe	No	Kept about the same	Somewhat Disagree	Somewhat Disagree	Strongly Disagree	Somewhat Disagree	Strongly Disagree	Do not know	Not much difference
366437df	Likely	Believe	No	Decreased	Strongly Agree	Do not know	Strongly Agree	Strongly Agree	Strongly Agree	Gotten larger	British pay a higher percentage
0e035f09f	Unlikely	Do not know	No	Kept about the same	Somewhat Agree	Do not know	Strongly Agree	Strongly Agree	Strongly Agree	Gotten larger	Do not know
9ef0b659e	Do not know	Believe	Yes	Kept about the same	Somewhat Agree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Stayed the same	British pay a higher percentage
23c8a9326	Likely	Believe	Yes	Decreased	Somewhat Agree	Somewhat Disagree	Strongly Agree	Strongly Agree	Strongly Agree	Stayed the same	British pay a higher percentage
f41de46e5	Likely	Believe	Yes	Decreased	Strongly Agree	Somewhat Disagree	Strongly Agree	Strongly Agree	Strongly Agree	Gotten larger	Not much difference
b9a2ba98f	Likely	Believe	No answer	Do not know	Somewhat Agree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Gotten larger	British pay a lower percentage
f11327e09	Unlikely	Believe	No	Increased	Strongly Agree	Strongly Disagree	Strongly Disagree	Strongly Agree	Strongly Agree	Gotten larger	British pay a lower percentage
441ea695c	Likely	No answer	Yes	Decreased	Somewhat Agree	Somewhat Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Gotten larger	Do not know
3ba038c2f	Do not know	Do not know	Yes	Decreased	Somewhat Agree	Somewhat Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Gotten larger	British pay a higher percentage
e0822cbc	Unlikely	Believe	Yes	Increased	Strongly Agree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Gotten larger	Not much difference
b9a2ba98f	Likely	Believe	Yes	Increased	Strongly Agree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Gotten larger	British pay a lower percentage
f8d41fda1	Unlikely	Believe	Yes	Increased	Somewhat Agree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Gotten larger	British pay a lower percentage
40bbc0de	No answer	No answer	Yes	Kept about the same	Somewhat Agree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Gotten larger	Do not know
cd8e894bf	Likely	Do not believe	No	Decreased	Do not know	Do not know	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Stayed the same	British pay a lower percentage
5d8dd21c	Unlikely	Believe	Yes	Increased	Strongly Agree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Gotten larger	Do not know
ab050283c	Likely	Do not believe	No	Kept about the same	Somewhat Agree	Somewhat Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Stayed the same	Do not know
d61374cf	Unlikely	Believe	Yes	Increased	Strongly Agree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Gotten larger	British pay a higher percentage
f64772b5	Likely	Do not believe	No	Decreased	Strongly Disagree	Strongly Agree	Strongly Disagree	Somewhat Disagree	Strongly Disagree	Gotten smaller	British pay a higher percentage
4ce5a589f	Likely	Believe	Yes	Kept about the same	Strongly Agree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Gotten larger	British pay a lower percentage
d5d466e8f	Likely	Believe	No	Decreased	Strongly Agree	Somewhat Disagree	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Gotten larger	Do not know
2ad1df83	Likely	No answer	No	Kept about the same	Somewhat Agree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Gotten larger	Do not know
f6d3f152	Unlikely	No answer	No	Increased	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Gotten larger	Not much difference
e6804ea73	Unlikely	Believe	Yes	Increased	Strongly Disagree	Strongly Disagree	Somewhat Disagree	Strongly Disagree	Strongly Disagree	Gotten larger	British pay a lower percentage
bd10476b1	Likely	No answer	Yes	Decreased	Somewhat Disagree	Somewhat Disagree	Strongly Disagree	Somewhat Disagree	Strongly Disagree	Gotten larger	British pay a higher percentage
ba05dbce	Likely	Do not believe	No	Decreased	Somewhat Disagree	Somewhat Disagree	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Do not know	British pay a higher percentage
2498c0393	Unlikely	No answer	Yes	Decreased	Strongly Agree	Strongly Disagree	Strongly Disagree	Somewhat Disagree	Strongly Disagree	Do not know	British pay a lower percentage
2a7e53091	Likely	Believe	No answer	Decreased	Strongly Agree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Gotten larger	British pay a lower percentage
20497448f	Unlikely	Do not believe	No	Decreased	Strongly Agree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Gotten larger	British pay a higher percentage
73a4c7b5f	Likely	No answer	No	Kept about the same	Strongly Disagree	Strongly Disagree	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Gotten larger	Not much difference
0907ae14e	Likely	Believe	No	Decreased	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Gotten larger	British pay a higher percentage
0bbe73a67	Likely	Believe	No	Kept about the same	Somewhat Disagree	Somewhat Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Gotten larger	British pay a higher percentage
8a61d6275	No answer	Believe	No	Decreased	Strongly Agree	Do not know	Strongly Disagree	Strongly Disagree	Strongly Disagree	Gotten larger	British pay a higher percentage
4e4772b6	Unlikely	No answer	No	Decreased	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Gotten larger	British pay a higher percentage
1f8571026	Do not know	Do not believe	No	Decreased	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Gotten larger	Not much difference
fee3d647d	Unlikely	Believe	No	Decreased	Strongly Disagree	Somewhat Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Gotten larger	British pay a higher percentage
3a1464a1d	Likely	Believe	No	Kept about the same	Strongly Disagree	Somewhat Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Gotten larger	British pay a higher percentage
1c717bbe0	Unlikely	Do not believe	No	Kept about the same	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Do not know	British pay a higher percentage
7c7e3a573	No answer	No answer	Yes	Increased	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Gotten larger	British pay a lower percentage
015450a6e	Likely	Believe	No	Decreased	Somewhat Disagree	Somewhat Disagree	Strongly Disagree	Somewhat Disagree	Strongly Disagree	Gotten larger	Not much difference
2d30c5e42	Unlikely	Believe	Yes	Kept about the same	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Stayed the same	British pay a higher percentage
5c778ee27	Likely	Believe	Yes	Decreased	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Gotten larger	British pay a higher percentage
a3cef170e	Likely	Do not believe	Yes	Kept about the same	Somewhat Disagree	Somewhat Disagree	Strongly Disagree	Somewhat Disagree	Strongly Disagree	Gotten larger	Not much difference
45838344f	Likely	Do not know	Yes	Decreased	Somewhat Disagree	Somewhat Disagree	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Do not know	Do not know
656e1e64f	Unlikely	Believe	No	Decreased	Strongly Disagree	Strongly Disagree	Do not know	Strongly Disagree	Strongly Disagree	Gotten larger	British pay a higher percentage
6db9b9a7c	Do not know	Believe	No	Do not know	Strongly Disagree	Somewhat Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Gotten larger	Do not know
e83cd446	Unlikely	Believe	No	Decreased	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Strongly Disagree	Gotten larger	British pay a higher percentage
a196948a3	Likely	Believe	No	Kept about the same	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Gotten larger	British pay a lower percentage
666240b0c	Likely	Do not believe	No	Kept about the same	Somewhat Disagree	Strongly Disagree	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Stayed the same	Not much difference
b3a5e392e	Likely	Believe	No	Do not know	Do not know	Do not know	Do not know	Somewhat Disagree	Do not know	Do not know	Do not know
c340ba0d	Unlikely	Believe	No	Increased	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Gotten larger	British pay a lower percentage
d720642e1	Likely	Believe	No answer	Kept about the same	Somewhat Disagree	Somewhat Disagree	Do not know	Somewhat Disagree	Somewhat Disagree	Gotten larger	British pay a lower percentage
7639c0e6	Unlikely	Believe	No	Increased	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Gotten larger	British pay a lower percentage
667f75a8e	Likely	Believe	No	Kept about the same	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Gotten larger	British pay a higher percentage
53bd476be	Likely	Believe	No	Decreased	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Gotten larger	British pay a higher percentage
7c05ca453	Likely	Believe	No	Kept about the same	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Gotten larger	Do not know
b259e454e	Do not know	Believe	No	Kept about the same	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Strongly Disagree	Strongly Disagree	Do not know	Not much difference
4a252dbd4	No answer	Believe	No	Kept about the same	Somewhat Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Do not know	Not much difference

The poor are poor because the British way of life doesn't give all people an equal chance.	Our freedom depends on the free enterprise system (free market/capitalism).	Many poor people simply don't want to work hard.	One should always find ways to help others less fortunate than oneself.	I believe it is best not to get involved in taking care of other people's needs.	Public officials don't care much what people like me think.	Just for classification purposes, what is the moment?	Other	Your gender?	What do you consider as your primary identity today?	Are you afraid of losing your national identity?	Do you think that competition is good for people?	Taking all things together, how happy are you?	Which geographic group do you feel you belong to most?	What is your race/ethnicity?	What is your race/ethnicity? (White & Non-White)	Other	How important is work in your life?	How important is leisure time?	How important is family?
Agree	Disagree	Disagree	Disagree	Do not know	Agree	Working full-time	No answer	Male	English	7	7	7	World	Middle Eastern	No answer	4	4	4	
Do not know	Disagree	Disagree	Disagree	Disagree	Disagree	No answer	No answer	Female	Latin American	2	8	8	World	Latin American	No answer	3	4	4	
Disagree	Disagree	Disagree	Disagree	Do not know	Do not know	No answer	No answer	Female	Middle Eastern	3	10	5	Country	Middle Eastern	No answer	4	4	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	No answer	No answer	Male	Middle Eastern	8	7	8	Country	Middle Eastern	No answer	4	3	4	
Do not know	Disagree	Disagree	Disagree	Disagree	Disagree	Working full-time	No answer	Female	British	7	8	10	Local/Town	White	No answer	1	4	4	
Disagree	Disagree	Disagree	Disagree	Do not know	Do not know	Working full-time	No answer	Female	British	7	8	5	Country	White	No answer	4	4	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Working full-time	No answer	Male	British	7	10	10	Local/Town	White	No answer	4	4	4	
Do not know	Disagree	Disagree	Disagree	Disagree	Disagree	No answer	No answer	Female	European	2	7	9	Country	White	No answer	4	4	4	
Do not know	Disagree	Disagree	Disagree	Disagree	Disagree	No answer	No answer	Male	European	6	5	5	Country	Multiracial or mixed race	No answer	3	4	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	No answer	No answer	Male	Middle Eastern	10	3	3	Local/Town	Middle Eastern	No answer	4	3	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Working full-time	No answer	Female	English	0	3	3	World	White	No answer	1	3	1	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Student	No answer	Female	Asian	4	9	3	Country	None-White	No answer	3	4	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Student	No answer	Male	Asian	5	0	7	World	White	No answer	2	4	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Student	No answer	Male	European	0	5	5	Local/Town	None-White	No answer	3	4	4	
Do not know	Disagree	Disagree	Disagree	Disagree	Disagree	Working full-time	No answer	Female	European	2	7	8	Continent	White	No answer	3	4	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Student	No answer	Male	European	5	0	0	World	White	No answer	4	4	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Student	No answer	Female	Asian	1	7	7	World	None-White	No answer	3	3	3	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Student	No answer	Female	Middle Eastern	7	6	7	Country	Middle Eastern	No answer	3	4	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Student	No answer	Female	Middle Eastern	0	5	5	Local/Town	None-White	No answer	3	4	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Working full-time	No answer	Female	Asian	0	7	8	Continent	White	No answer	3	4	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Working full-time	No answer	Female	Global Citizen (Cosn6)	7	9	9	Local/Town	Latin American	No answer	3	4	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Temporarily unemployed	No answer	Female	Latin American	0	7	5	World	White	No answer	4	3	4	
Do not know	Disagree	Disagree	Disagree	Disagree	Disagree	Working full-time	No answer	Male	British	0	No answer	9	Local/Town	White	No answer	3	4	4	
Do not know	Disagree	Disagree	Disagree	Disagree	Disagree	Student	No answer	Male	Middle Eastern	1	8	5	Country	Middle Eastern	No answer	4	3	4	
Do not know	Disagree	Disagree	Disagree	Disagree	Disagree	Working part-time	No answer	Male	European	7	5	5	Continent	White	No answer	2	4	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Working full-time	No answer	Male	European	8	6	7	Country	White	No answer	3	4	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Student	No answer	Female	Middle Eastern	5	10	9	Country	Middle Eastern	No answer	4	3	3	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Student	No answer	Female	Middle Eastern	1	7	5	Country	Middle Eastern	No answer	4	3	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Working full-time	No answer	Male	Middle Eastern	2	9	7	World	Middle Eastern	No answer	1	4	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Working full-time	No answer	Male	Global Citizen (Cosn1)	5	8	8	Continent	White	No answer	4	4	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Student	No answer	Female	Latin American	1	9	8	Country	Latin American	No answer	4	3	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Student	No answer	Female	Global Citizen (Cosn0)	7	6	6	World	Middle Eastern	No answer	3	4	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Working part-time	No answer	Male	British	0	7	3	Country	Middle Eastern	No answer	3	1	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Student	No answer	Male	Middle Eastern	5	6	5	World	Middle Eastern	No answer	2	2	2	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Working full-time	No answer	Male	English	0	10	5	World	White	No answer	2	4	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Student	No answer	Male	Middle Eastern	8	8	8	Local/Town	Middle Eastern	No answer	4	4	4	
Do not know	Disagree	Disagree	Disagree	Disagree	Disagree	Student	No answer	Male	British	9	3	2	Country	White	No answer	3	4	3	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Student	No answer	Female	European	0	6	8	Continent	No answer	No answer	4	2	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Student	No answer	Female	Asian	8	3	6	Local/Town	None-White	No answer	4	4	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Student	No answer	Male	Middle Eastern	0	5	5	Continent	Middle Eastern	No answer	3	3	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Student	No answer	Female	Middle Eastern	6	7	4	Local/Town	Middle Eastern	No answer	3	4	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Student	No answer	Female	Persians	0	8	8	Continent	None-White	No answer	3	3	3	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Student	No answer	Female	Han Chinese	2	9	3	Continent	None-White	No answer	3	3	3	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Student	No answer	Female	French	6	6	8	Country	None-White	No answer	4	1	4	
Do not know	Disagree	Disagree	Disagree	Disagree	Disagree	Student	No answer	Female	European	5	7	9	Continent	White	No answer	3	4	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Working full-time	No answer	Male	Global Citizen (Cosn3)	6	No answer	6	World	White	No answer	4	4	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Retired	No answer	Female	Hungarians	7	7	7	Continent	White	No answer	2	4	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Working full-time	No answer	Female	Middle Eastern	0	7	6	Local/Town	White	No answer	3	4	3	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Student	No answer	Male	Spaniards	7	8	8	World	White	No answer	4	4	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Student	No answer	Male	Middle Eastern	0	7	7	World	White	No answer	4	2	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Student	No answer	Male	African	7	10	5	Local/Town	Black or African British	No answer	4	3	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Student	No answer	Male	Persians	3	8	7	Local/Town	None-White	No answer	4	4	3	
Do not know	Disagree	Disagree	Disagree	Disagree	Disagree	Student	No answer	Female	No answer	0	7	10	World	White	No answer	0	4	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Student	No answer	Male	British	5	0	5	Local/Town	White	No answer	1	2	3	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Student	No answer	Male	British	1	7	8	Local/Town	White	No answer	2	2	3	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Student	No answer	Female	British	4	No answer	4	Local/Town	White	No answer	3	4	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Working full-time	No answer	Male	British	2	2	No answer	Continent	White	No answer	3	4	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Working full-time	No answer	Male	British	0	6	5	Local/Town	White	No answer	4	3	4	
Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Working full-time	No answer	Female	British	0	2	8	Local/Town	White	No answer	4	3	4	

Police	Other	What is your religious preference?	What is the name of your neighbourhood?	Restaurants, Coffee shops, Pubs	Safety	Transportation	Public spaces	Recreation	Green Space	Shopping	Amenities for instance schools or medical services	How satisfied are you generally with your neighbourhood?	Residents in my neighbourhood are ethnically diverse.	Residents in my area are willing to help their neighbours.	This neighbourhood is better in comparison to where I used to live.	I enjoy taking walks through my neighbourhood.
Not applicable. I have not tried to access this.	No answer	Prefer not to say	broom walk	3	4	4	4	4	4	4	4	4	Somewhat Agree	Somewhat Agree	Somewhat Agree	Somewhat Agree
Felt unwelcomed by people	No answer	Christianity	Netherthorpe	3	4	4	3	3	3	3	3	3	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree
No answer	No answer	Christianity	Springhill	3	2	4	3	3	3	3	3	3	Do not know	Do not know	Do not know	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	Islam	Ruth SQ	3	4	4	4	3	4	4	4	4	Somewhat Agree	Somewhat Agree	Strongly Agree	Strongly Agree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	greystones	3	4	3	1	1	3	3	3	3	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	Christianity	Greystones	4	3	2	2	2	3	3	3	3	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree
Felt unwelcomed by people	No answer	None/No religion	Bifley Moor	2	4	4	3	3	4	4	4	4	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	Islam	Walley	2	4	4	3	3	4	4	4	4	Do not know	Do not know	Do not know	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	Christianity	Broomhall	4	3	3	4	4	4	4	4	4	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree
Not applicable. I did not experience these negative outcomes.	No answer	Islam	Netherthorpe	3	4	4	3	3	3	3	3	3	Do not know	Do not know	Do not know	Strongly Agree
Not applicable. I did not experience these negative outcomes.	No answer	Islam	endcliffe	3	4	4	4	4	4	4	4	4	Somewhat Agree	Somewhat Agree	Somewhat Agree	Strongly Agree
Felt unwelcomed by people	No answer	None/No religion	Malin	3	4	4	3	1	4	1	3	3	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	Christianity	netherthorpe	4	4	2	4	2	3	4	2	3	Strongly Disagree	Somewhat Disagree	Strongly Disagree	Strongly Disagree
Not applicable. I did not experience these negative outcomes.	No answer	Islam	City Centre	3	3	4	3	3	3	3	3	3	Somewhat Agree	Somewhat Agree	Somewhat Agree	Somewhat Agree
Not applicable. I did not experience these negative outcomes.	No answer	Christianity	In Sheffield It is Broomhall	3	3	3	3	3	3	3	3	3	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	Christianity	Broomhill	4	3	3	2	3	4	4	4	4	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree
Not applicable. I have not tried to access this.	No answer	None/No religion	Netherthorpe	4	2	2	3	3	2	2	2	2	Do not know	Do not know	Do not know	Somewhat Agree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Crookes	4	2	2	1	0	4	3	2	2	Strongly Agree	Strongly Agree	Strongly Agree	Somewhat Agree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Crookesmoor	2	4	4	3	2	2	2	2	2	Somewhat Agree	Somewhat Agree	Somewhat Agree	Somewhat Agree
Not applicable. I did not experience these negative outcomes.	No answer	Islam	I dont know	2	4	4	2	4	2	4	2	4	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	Islam	Netherthorpe	3	3	3	3	3	3	3	3	3	Do not know	Do not know	Do not know	Do not know
Not applicable. I did not experience these negative outcomes.	No answer	Islam	St Georges close	3	3	3	3	3	3	3	3	3	Do not know	Do not know	Do not know	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	Christianity	Adrian	1	2	2	1	4	2	1	3	3	Strongly Agree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	Christianity	City Centre	4	3	2	2	2	4	4	4	4	Strongly Agree	Strongly Disagree	Strongly Disagree	Strongly Disagree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Lowedges	4	3	3	2	4	2	2	3	4	Somewhat Agree	Somewhat Agree	Somewhat Agree	Somewhat Agree
Not applicable. I did not experience these negative outcomes.	No answer	Christianity	City centre	4	3	4	4	2	3	4	4	4	Do not know	Do not know	Do not know	Strongly Agree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Pitsmoor	2	3	4	3	3	4	4	4	4	Somewhat Agree	Somewhat Agree	Somewhat Agree	Strongly Agree
Felt unwelcomed by people	No answer	Islam	Broomhill	3	4	4	4	4	4	4	4	4	Somewhat Agree	Somewhat Agree	Somewhat Agree	Somewhat Agree
Not applicable. I did not experience these negative outcomes.	No answer	Christianity	Fulwood	2	3	2	2	2	4	4	4	4	Do not know	Do not know	Do not know	Strongly Agree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Sheffield City Centre	4	3	4	4	3	4	3	3	4	Somewhat Agree	Somewhat Agree	Somewhat Agree	Somewhat Agree
Not applicable. I did not experience these negative outcomes.	No answer	Islam	Infirmary	0	2	3	2	1	2	1	3	2	Strongly Agree	Strongly Agree	Somewhat Agree	Somewhat Agree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	crookes	3	3	3	3	3	3	3	3	3	Somewhat Agree	Somewhat Agree	Somewhat Agree	Strongly Agree
Not applicable. I have not tried to access this.	No answer	Islam	I Do not know I	2	2	2	2	1	1	1	2	2	Do not know	Do not know	Do not know	Do not know
Not applicable. I have not tried to access this.	No answer	None/No religion	hunters bar	4	4	4	4	4	4	4	4	4	Somewhat Disagree	Somewhat Disagree	Strongly Disagree	Strongly Disagree
Not applicable. I did not experience these negative outcomes.	No answer	Christianity	city centre	3	3	3	3	3	3	3	3	3	Strongly Agree	Somewhat Disagree	Strongly Disagree	Strongly Disagree
Not applicable. I did not experience these negative outcomes.	No answer	Islam	I Do not know.	3	2	3	2	3	4	0	2	2	Do not know	Do not know	Do not know	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	Prefer not to say	Prefer not to say	4	3	2	2	2	3	2	2	2	Somewhat Agree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	Prefer not to say	No answer	2	3	2	2	2	3	3	3	3	Somewhat Agree	Somewhat Agree	Somewhat Agree	Somewhat Agree
Not applicable. I did not experience these negative outcomes.	No answer	Christianity	Sheffield City Centre	4	2	3	0	3	2	2	1	2	Strongly Agree	Strongly Agree	Strongly Agree	Do not know
Physically attacked or assaulted	No answer	Christianity	mappin	4	4	4	4	4	4	4	4	4	Strongly Agree	Somewhat Disagree	Strongly Disagree	Somewhat Disagree
Not applicable. I have not tried to access this.	No answer	Christianity	Hallam	2	3	4	4	4	4	4	4	4	Do not know	Somewhat Agree	Somewhat Agree	Strongly Agree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Sharrow	4	4	4	4	4	4	4	4	4	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree
Not applicable. I did not experience these negative outcomes.	No answer	Islam	No answer	2	3	4	3	4	3	4	3	4	Somewhat Disagree	Strongly Disagree	Strongly Disagree	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	Prefer not to say	Centre	2	2	2	1	1	1	1	1	1	Do not know	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	Islam	Opal two student accomodation	3	3	3	2	2	2	2	2	2	Somewhat Agree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	broomhall	1	1	3	2	2	1	2	2	2	Do not know	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree
Felt unwelcomed by people	No answer	Prefer not to say	Woodseats	2	4	4	1	1	1	1	3	4	Somewhat Agree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Victoria Quays	2	2	4	2	2	2	3	2	2	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree
Not applicable. I have not tried to access this.	No answer	None/No religion	City centre	4	3	4	4	4	4	4	4	4	Somewhat Agree	Somewhat Agree	Somewhat Agree	Somewhat Agree
Not applicable. I did not experience these negative outcomes.	No answer	Christianity	the moor?	3	4	4	3	4	2	4	4	4	Do not know	Somewhat Agree	Somewhat Agree	Strongly Agree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Sheffield city centre - Derbys 4	4	4	4	3	3	3	3	3	3	Do not know	Somewhat Agree	Somewhat Agree	Somewhat Agree
Not applicable. I did not experience these negative outcomes.	No answer	Prefer not to say	Skye edge	1	3	4	4	4	0	0	2	2	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	Christianity	Beauchief	2	3	3	3	3	3	3	3	3	Somewhat Agree	Somewhat Agree	Somewhat Agree	Somewhat Agree
Not applicable. I have not tried to access this.	No answer	None/No religion	No answer	4	4	3	2	1	4	2	4	2	Strongly Disagree	Strongly Disagree	Strongly Disagree	Do not know
Not applicable. I have not tried to access this.	No answer	None/No religion	Broomhall	4	4	4	4	4	4	4	4	4	Strongly Agree	Somewhat Disagree	Strongly Disagree	Strongly Disagree
Not applicable. I did not experience these negative outcomes.	No answer	Islam	Samantha	2	4	2	3	3	3	3	3	3	Somewhat Agree	Somewhat Disagree	Somewhat Disagree	Strongly Disagree
Not applicable. I did not experience these negative outcomes.	No answer	Christianity	Burngreave	2	1	2	3	1	4	1	2	2	Somewhat Disagree	Somewhat Disagree	Strongly Disagree	Strongly Disagree
Felt unwelcomed by people	No answer	None/No religion	Heeley	3	2	2	1	4	1	3	3	3	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree
Denied equal treatment or service	No answer	None/No religion	City centre/Broomhall	0	3	2	3	1	3	1	3	3	Strongly Agree	Strongly Disagree	Strongly Disagree	Strongly Disagree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Crookes	2	4	4	4	4	4	4	4	4	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Crookes	4	3	3	2	3	3	3	3	3	Somewhat Agree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree
Not applicable. I have not tried to access this.	No answer	None/No religion	No answer	2	No answer 2	3	2	3	1	2	3	3	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Strongly Disagree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Pitsmoor	3	2	3	2	3	2	3	3	3	Strongly Agree	Somewhat Agree	Somewhat Agree	Strongly Agree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	dale	3	4	0	2	2	4	0	4	3	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Brindcliffe	3	4	2	4	3	4	4	4	4	Somewhat Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree

Not applicable. I have not tried to access this.	No answer	None/No religion	meersbrook	3	3	3	3	3	3	Somewhat Agree	Somewhat Agree	Strongly Agree	Strongly Agree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Pilsmer	0	2	3	3	3	3	Strongly Agree	Somewhat Agree	Somewhat Agree	Somewhat Agree
Verbally harassed or disrespected	No answer	None/No religion	woodsats	0	3	3	3	3	3	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Sharrow	4	4	4	4	4	4	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree
Not applicable. I have not tried to access this.	No answer	Christianity	Hunters Bar	4	3	4	4	4	4	Somewhat Agree	Strongly Agree	Somewhat Agree	Somewhat Agree
Not applicable. I have not tried to access this.	No answer	None/No religion	Walkley	3	2	1	2	3	3	Somewhat Agree	Somewhat Agree	Somewhat Agree	Somewhat Agree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Meersbrook	3	3	4	4	4	4	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Nether Edge	3	4	3	3	3	3	Somewhat Agree	Somewhat Agree	Somewhat Agree	Somewhat Agree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Sharrow / Nether Edge	3	2	3	2	3	2	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Meersbrook	3	3	4	3	3	3	Somewhat Agree	Somewhat Agree	Somewhat Agree	Somewhat Agree
Felt unwelcomed by people	No answer	None/No religion	Sharrow Head	3	2	1	2	1	3	Somewhat Disagree	Somewhat Disagree	Strongly Agree	Strongly Agree
Not applicable. I did not experience these negative outcomes.	No answer	Christianity	Chapeltown	1	3	4	4	4	3	Strongly Disagree	Somewhat Agree	Somewhat Agree	Strongly Agree
Not applicable. I have not tried to access this.	No answer	None/No religion	Woodsats	4	4	4	4	4	4	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree
Not applicable. I did not experience these negative outcomes.	No answer	Christianity	doesnt have a name	0	2	4	4	4	4	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree
No answer	No answer	No answer	No answer	4	4	4	4	4	4	Do not know	Do not know	Strongly Agree	Strongly Agree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	sharrow	3	2	3	3	3	3	Strongly Agree	Do not know	Somewhat Agree	Somewhat Agree
Not applicable. I did not experience these negative outcomes.	No answer	Christianity	aston	1	4	3	0	4	0	Strongly Agree	Strongly Agree	Somewhat Disagree	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	Prefer not to say	Sharrow	3	3	4	4	4	4	Somewhat Agree	Somewhat Agree	Strongly Agree	Strongly Agree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Walkley	4	4	4	4	4	4	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree
Not applicable. I did not experience these negative outcomes.	No answer	Christianity	Walkley	4	3	4	3	3	3	Somewhat Agree	Somewhat Agree	Strongly Agree	Strongly Agree
Not applicable. I did not experience these negative outcomes.	No answer	Christianity	Crooksmoor	2	2	2	2	2	2	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Sharrow	3	2	2	3	2	3	Strongly Agree	Somewhat Agree	Somewhat Agree	Strongly Agree
Not applicable. I did not experience these negative outcomes.	No answer	Christianity	I Do not know	2	3	3	3	3	3	Do not know	Do not know	Strongly Agree	Strongly Agree
Not applicable. I have not tried to access this.	No answer	Christianity	Walkley	2	2	1	2	2	2	Somewhat Disagree	Do not know	Strongly Agree	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	No answer	Sharrow	4	3	4	4	4	4	Strongly Agree	Somewhat Agree	Strongly Agree	Strongly Agree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Crookes	4	4	4	4	4	4	Strongly Agree	Strongly Agree	Do not know	Somewhat Agree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Crookes	4	4	4	4	4	4	Strongly Agree	Strongly Agree	Do not know	Do not know
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Crookes	3	3	3	3	3	3	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Ecclesall road	4	4	4	4	4	4	Strongly Disagree	Somewhat Disagree	Strongly Disagree	Strongly Disagree
Not applicable. I did not experience these negative outcomes.	No answer	Buddhism	walkley	3	4	4	3	4	3	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree
Felt unwelcomed by people	No answer	None/No religion	West Street	2	2	2	2	2	2	Somewhat Disagree	Somewhat Disagree	Do not know	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	Christianity	St.George's	1	2	2	2	2	2	Strongly Agree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Hunter's Bar	4	3	3	4	3	4	Strongly Disagree	Strongly Disagree	Somewhat Agree	Somewhat Agree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Broomhall/ecclesall	3	2	0	4	2	3	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Crookes	3	3	2	3	2	1	Strongly Agree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	Christianity	Crookes	2	4	2	2	1	4	Strongly Disagree	Do not know	Somewhat Disagree	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Crookes	4	4	3	4	3	3	Somewhat Agree	Somewhat Agree	Somewhat Agree	Somewhat Agree
Not applicable. I have not tried to access this.	No answer	None/No religion	Ecclesall	4	4	3	4	3	3	Somewhat Agree	Somewhat Agree	Somewhat Agree	Somewhat Agree
Not applicable. I have not tried to access this.	No answer	None/No religion	High Stotts	4	3	4	4	4	4	Somewhat Disagree	Somewhat Disagree	Strongly Agree	Strongly Agree
Not applicable. I did not experience these negative outcomes.	No answer	Christianity	tonley	4	3	4	4	4	4	Somewhat Disagree	Strongly Disagree	Somewhat Disagree	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	Christianity	Hillsborough	1	3	4	4	4	4	Do not know	Somewhat Disagree	Strongly Agree	Strongly Agree
Not applicable. I did not experience these negative outcomes.	No answer	Christianity	Granoside	1	3	3	3	3	3	Somewhat Disagree	Somewhat Disagree	Strongly Agree	Strongly Agree
Not applicable. I have not tried to access this.	No answer	Christianity	Chapeltown	4	4	4	4	4	4	Strongly Disagree	Somewhat Disagree	Strongly Disagree	Strongly Disagree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Crookes	4	4	4	4	4	4	Somewhat Agree	Somewhat Agree	Strongly Agree	Strongly Agree
Denied equal treatment or service	No answer	None/No religion	Parson Cross	0	1	3	2	2	2	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Shirgreen	2	1	1	1	1	1	Do not know	Somewhat Disagree	Do not know	Somewhat Disagree
Not applicable. I have not tried to access this.	No answer	Christianity	Foxhill	2	2	2	3	3	3	Somewhat Disagree	Do not know	Somewhat Disagree	Somewhat Disagree
Not applicable. I have not tried to access this.	No answer	None/No religion	sheffield	4	4	3	4	4	4	Strongly Disagree	Somewhat Disagree	Strongly Disagree	Strongly Disagree
Not applicable. I have not tried to access this.	No answer	None/No religion	S55	3	2	1	2	2	2	Do not know	Do not know	Strongly Disagree	Strongly Disagree
Felt unwelcomed by people	No answer	Islam	nache	4	3	2	3	1	3	Somewhat Disagree	Strongly Disagree	Somewhat Disagree	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Nether Edge	4	4	3	4	4	3	Strongly Agree	Somewhat Disagree	Strongly Disagree	Strongly Disagree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Walkley	4	4	3	4	4	4	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	greystones	3	4	2	3	2	3	Somewhat Agree	Somewhat Agree	Strongly Disagree	Strongly Disagree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Sothall	1	3	3	2	4	1	Somewhat Disagree	Strongly Disagree	Somewhat Disagree	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	Christianity	xxxxxxx	4	4	4	4	4	4	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree
Not applicable. I have not tried to access this.	No answer	None/No religion	Meersbrook	3	3	1	3	2	3	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	broomhall	2	2	No answer	No answer	2	2	Strongly Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree
Not applicable. I have not tried to access this.	No answer	None/No religion	Wadley Park	2	4	3	4	3	4	Strongly Disagree	Somewhat Disagree	Strongly Disagree	Strongly Disagree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Meadowhead	4	4	4	4	4	4	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	Christianity	parson cross	1	1	3	1	2	3	Do not know	Somewhat Disagree	Strongly Disagree	Strongly Disagree
Not applicable. I have not tried to access this.	No answer	Christianity	South Anst	4	0	4	4	4	4	Do not know	Strongly Disagree	Do not know	Strongly Disagree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Sheffield	4	1	2	4	4	4	Somewhat Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree
Felt unwelcomed by people	No answer	Christianity	Mosborough	4	4	4	4	4	4	Somewhat Disagree	Somewhat Disagree	Strongly Disagree	Strongly Disagree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	sheffield 2	1	1	0	1	2	0	Strongly Disagree	Strongly Disagree	Somewhat Disagree	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	greystones	3	2	4	3	4	2	Somewhat Disagree	Somewhat Disagree	Strongly Disagree	Strongly Disagree
Denied equal treatment or service	No answer	None/No religion	North sheffield	0	3	2	3	2	2	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	Islam	Darnall	0	2	4	2	2	0	Somewhat Disagree	Somewhat Disagree	Strongly Disagree	Strongly Disagree
Not applicable. I did not experience these negative outcomes.	No answer	None/No religion	Dore	1	3	1	3	2	1	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	Christianity	Dore	4	1	4	4	4	4	Somewhat Disagree	Somewhat Disagree	Do not know	Somewhat Disagree
Not applicable. I have not tried to access this.	No answer	None/No religion	dore	2	3	1	4	2	1	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree
Not applicable. I did not experience these negative outcomes.	No answer	No answer	Sharrow vale	4	4	4	4	4	4	Somewhat Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree
Not applicable. I have not tried to access this.	No answer	None/No religion	Crooksmoor	0	4	2	3	3	4	Do not know	Somewhat Disagree	Somewhat Disagree	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	Christianity	Dore	3	0	1	1	1	3	Do not know	Somewhat Disagree	Do not know	Somewhat Disagree
Not applicable. I did not experience these negative outcomes.	No answer	Christianity	City centre, peace gardens	3	3	3	3	3	3	Strongly Disagree	Somewhat Disagree	Strongly Disagree	Strongly Disagree

Transportation (buses & tram)	Lighting	Recycling facilities	Community activities	Neighbourhood	Do you think neighbourhoods in Sheffield are developed evenly or some neighbourhoods receive more investment (development programs/funds) than the others? What makes you think that way?	Address	Latitude	Longitude	Easting	Northing	what3words	Constituency	Neighbourhood (official)	District	Ward
Expanded	Expanded	Cut back	Cut back	Highfield	I can see some areas in the city more developed than others	S11 8BU	53.37034	-1.47828	434781	386068	couches.boiling.cute	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Expanded	Expanded	Kept same	Expanded	Highfield	They are not evenly developed. The area is more developed	S11 8BE	53.37141	-1.47515	435018	386139	finishing.stage.boost	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Kept same	Kept same	Kept same	Kept same	Highfield	No answer	S11 8BN	53.37095	-1.48058	434657	386090	card.diary.snack	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Kept same	Kept same	Expanded	Expanded	Highfield	I do not know	S11 8DB	53.36796	-1.47841	434802	385803	fork.winner.grab	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Expanded	Kept same	Kept same	Kept same	Dore	I agree that deprived areas require more investment	S17 9EJ	53.33069	-1.54400	430439	381627	wrong.moment.piles	Sheffield, Hallam	Dore & Topley	Sheffield	Dore and Topley
Expanded	Kept same	Kept same	Kept same	Dore	Some areas receive more funding than others	S17 9DH	53.33393	-1.54630	430312	381764	dig.icon.value	Sheffield, Hallam	Dore & Topley	Sheffield	Dore and Topley
Expanded	Kept same	Expanded	Expanded	Parson Cross	Not even, better bus/tram services to the area	S5 9JT	53.43187	-1.46692	435515	392919	renew.cans.town	Penistone and Stoodley	Parson Cross	Sheffield	East Ecclesfield
Kept same	Kept same	Kept same	Expanded	Highfield	Both socially stable and wealthy neighbourhoods	S11 8BA	53.36808	-1.48324	434482	385814	lease.linen.modes	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Kept same	Expanded	Expanded	Kept same	Highfield	I do not know. Probably some areas are more developed than others	S11 8DF	53.37026	-1.47975	434713	386059	trap.strain.begin	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Do not know	Do not know	Do not know	Do not know	Highfield	I think some neighbourhoods receive more investment than others	S11 8FX	53.36777	-1.48658	434260	385778	discrepancy.fast.storms	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Do not know	Do not know	Do not know	Do not know	Dore	I do not know	S17 9DG	53.33351	-1.54828	430314	381606	same.parade.club	Sheffield, Hallam	Dore & Topley	Sheffield	Dore and Topley
Expanded	Kept same	Expanded	Kept same	Parson Cross	No answer	S5 9GX	53.42988	-1.47043	435303	392696	shout.chefs.camp	Sheffield, Brightside	Parson Cross	Sheffield	Southey
Kept same	Kept same	Kept same	Kept same	Highfield	Kept same	S2 4TB	53.37238	-1.46752	435255	386301	late.forum.rated	Sheffield Central	Highfield	Sheffield	City
Expanded	Expanded	Expanded	Expanded	Highfield	Yes definitely there are neighbourhoods that are more developed than others	S2 4UB	53.36795	-1.47301	435163	385794	best.cost.pokers	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Kept same	Kept same	Kept same	Kept same	Highfield	As a general rule, I think in Sheffield there are some areas that are more developed than others	S2 4UG	53.37182	-1.47508	434994	386234	stack.rft.dating	Sheffield Central	Highfield	Sheffield	City
Expanded	Kept same	Kept same	Expanded	Highfield	Yes	S2 4NI	53.36791	-1.47683	434919	385799	habit.steer.works	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Expanded	Kept same	Kept same	Kept same	Highfield	n/a	S2 4QQ	53.37169	-1.47376	435112	386221	shop.plot.fantastic	Sheffield Central	Highfield	Sheffield	City
Expanded	Expanded	Expanded	Expanded	Highfield	They are not evenly developed, some areas are more developed than others	S2 4LW	53.36818	-1.47630	434944	385829	tamed.paths.bids	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Kept same	Kept same	Kept same	Kept same	Parson Cross	No answer	S5 9DJ	53.43111	-1.47587	434921	392830	wings.cope.hero	Sheffield, Brightside	Parson Cross	Sheffield	Southey
Kept same	Do not know	Kept same	Cut back	Highfield	Yes	S11 8DR	53.36874	-1.48083	434642	385889	lively.scales.police	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
No answer	No answer	No answer	No answer	Highfield	No answer	S2 4UR	53.36869	-1.47373	435116	385664	decreased.magic.care	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Expanded	Kept same	Kept same	Do not know	Highfield	No answer	S11 8DD	53.36945	-1.47857	434793	385853	order.heat.degree	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Expanded	Expanded	Expanded	Expanded	Highfield	No answer	S2 4QX	53.37134	-1.46987	435369	386134	songs.nature.whips	Sheffield Central	Highfield	Sheffield	City
Expanded	Expanded	Expanded	Do not know	Highfield	No answer	S2 4QQ	53.37169	-1.47376	435112	386221	shop.plot.fantastic	Sheffield Central	Highfield	Sheffield	City
Kept same	Kept same	Do not know	Kept same	Highfield	I believe that there are some areas that are more developed than others	S2 4BR	53.36875	-1.47103	435294	385895	plates.quit.worth	Sheffield Central	Highfield	Sheffield	City
Expanded	Kept same	Expanded	Expanded	Highfield	No answer	S11 8JA	53.37213	-1.48112	434620	386266	member.curry.legal	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Kept same	Kept same	Expanded	Expanded	Parson Cross	At city level I think the Council try to invest more in some areas	S5 9GT	53.43065	-1.46102	435038	392786	wants.wings.aved	Penistone and Stoodley	Parson Cross	Sheffield	East Ecclesfield
Kept same	Kept same	Expanded	Kept same	Highfield	Some receive more	S2 4EY	53.36712	-1.46848	435441	385715	magma.mis.deflection	Sheffield Central	Highfield	Sheffield	City
Expanded	Do not know	Expanded	Do not know	Dore	No answer	S17 3EJ	53.32729	-1.54048	430703	381262	supply.wire.discrepancy	Sheffield, Hallam	Dore & Topley	Sheffield	Dore and Topley
Expanded	Kept same	Expanded	Kept same	Parson Cross	I think that some areas are more run down than others	S5 9JT	53.42977	-1.48039	434622	392679	worker.influencing.shady	Sheffield, Brightside	Parson Cross	Sheffield	Southey
No answer	No answer	No answer	No answer	Highfield	No	S2 4UN	53.36869	-1.47209	435225	385687	dawn.proud.pione	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Expanded	Expanded	Kept same	Expanded	Highfield	N/A	S2 4NS	53.36822	-1.47692	434903	385833	healthier.wills.submit	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Cut back	Cut back	Cut back	Cut back	Highfield	No answer	S2 4TE	53.36743	-1.47424	435082	385747	state.riders.kit	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Kept same	Kept same	Expanded	Kept same	Highfield	uneven	S2 4NG	53.36556	-1.47288	435174	385939	local.battle.minus	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Kept same	Kept same	Kept same	Kept same	Highfield	.	S2 4EQ	53.37086	-1.46719	435448	386132	discrepancy.gloves.guides	Sheffield Central	Highfield	Sheffield	City
Kept same	Kept same	Expanded	Do not know	Highfield	No answer	S2 4EW	53.36801	-1.46825	435480	385814	grab.tennis.moth	Sheffield Central	Highfield	Sheffield	City
Expanded	Kept same	Cut back	Cut back	Highfield	Without a link to statistics, I will not invest more in some areas	S2 4AN	53.36886	-1.47763	434855	385904	town.takes.moods	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Expanded	Kept same	Expanded	Expanded	Highfield	No answer	S2 4ET	53.36982	-1.46738	435506	386104	fortunate.tracks.libraries	Sheffield Central	Highfield	Sheffield	City
Kept same	Expanded	Kept same	Kept same	Parson Cross	No answer	S5 9JB	53.43124	-1.47376	435061	392846	chief.owl.hope	Sheffield, Brightside	Parson Cross	Sheffield	Southey
No answer	Cut back	Expanded	Expanded	Highfield	No	S11 8BX	53.36847	-1.47982	434719	385859	stage.string.trap	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Expanded	Kept same	Kept same	Cut back	Dore	Don't really know	S17 3GU	53.32894	-1.53959	430768	381212	blitz.wanted.pinks	Sheffield, Hallam	Dore & Topley	Sheffield	Dore and Topley
Kept same	Expanded	Expanded	Expanded	Highfield	Development of different areas appears uneven	S11 8BI	53.36839	-1.48198	434566	385849	blitz.aweart.moon	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Kept same	Kept same	Kept same	Kept same	Highfield	No answer	S2 4NW	53.36963	-1.47794	434834	385989	tom.bricks.impact	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Kept same	Expanded	Kept same	Do not know	Highfield	Not developed evenly!	S2 4FF	53.36907	-1.46798	435497	385932	asks.props.day	Sheffield Central	Highfield	Sheffield	City
Expanded	Expanded	Expanded	Expanded	Highfield	Statistics show the inequality	S2 4QG	53.37182	-1.47588	434994	386234	stack.rft.dating	Sheffield Central	Highfield	Sheffield	City
Expanded	Kept same	Kept same	Kept same	Highfield	No answer	S2 4QE	53.36988	-1.46827	435477	386022	motion.wanted.slices	Sheffield Central	Highfield	Sheffield	City
Kept same	Kept same	Expanded	Kept same	Parson Cross	Poorer areas get more development	S5 9NQ	53.43315	-1.48187	434522	392871	lend.runs.remedy	Sheffield, Brightside	Parson Cross	Sheffield	Southey
Kept same	Kept same	Kept same	Kept same	Highfield	No answer	S2 4QJ	53.37095	-1.47606	434935	386137	that.fall.candle	Sheffield Central	Highfield	Sheffield	City
No answer	No answer	No answer	No answer	Highfield	I do not know	S2 4TD	53.36841	-1.47283	435175	385856	sports.aved.laded	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Kept same	Kept same	Expanded	Expanded	Highfield	.	S2 4QG	53.37182	-1.47588	434994	386234	stack.rft.dating	Sheffield Central	Highfield	Sheffield	City
Kept same	Kept same	Expanded	Expanded	Highfield	No answer	S2 4QK	53.37095	-1.47840	434935	386137	that.fall.candle	Sheffield Central	Highfield	Sheffield	City
Kept same	Kept same	Expanded	Expanded	Parson Cross	More or less the same. Some neighbourhoods receive more investment than others	S5 9LG	53.42382	-1.47245	435151	392508	appeal.mouse.cards	Sheffield, Brightside	Parson Cross	Sheffield	Southey
Kept same	Do not know	Expanded	Do not know	Parson Cross	Some receive more investment	S5 9LE	53.42937	-1.47238	435095	392633	punt.im.ages.lime	Sheffield, Brightside	Parson Cross	Sheffield	Southey
Expanded	Kept same	Expanded	Expanded	Highfield	No	S2 4ST	53.3684	-1.47095	435367	385856	bunch.given.flats	Sheffield Central	Highfield	Sheffield	City
Kept same	Kept same	Expanded	Expanded	Highfield	Do not know	S2 4FA	53.37015	-1.46849	435462	386052	shares.bronze.faces	Sheffield Central	Highfield	Sheffield	City
Kept same	Cut back	Expanded	Expanded	Highfield	No answer	S2 4UB	53.36795	-1.47301	435163	385794	best.cost.pokers	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Expanded	Expanded	Kept same	Expanded	Highfield	Some neighbourhoods receive more investment than others	S2 4BD	53.37102	-1.46621	435613	386150	glass.forestrating	Sheffield Central	Highfield	Sheffield	City
Expanded	Expanded	Expanded	Expanded	Highfield	No answer	S2 4FD	53.36852	-1.46944	435400	385870	names.steep.city	Sheffield Central	Highfield	Sheffield	City
Kept same	Kept same	Do not know	Do not know	Highfield	By the looks of it, richer areas seem to be more developed than others	S11 8BZ	53.36815	-1.47447	434868	385825	venues.wipes.inform	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
No answer	No answer	No answer	No answer	Highfield	Hard to say. Density of poor people in some areas is higher than in others	S2 4AL	53.36935	-1.47671	434912	385959	wallet.laying.fall	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Kept same	Kept same	Kept same	Kept same	Dore	Not totally sure if more or less but I think some areas are more developed than others	S17 3EJ	53.33015	-1.54103	430684	381568	handy.player.melan	Sheffield, Hallam	Dore & Topley	Sheffield	Dore and Topley
Kept same	Kept same	Kept same	Do not know	Dore	No; more facilities are being cut and some areas are more developed than others	S17 3DU	53.32888	-1.54118	430655	381418	fits.apples.cross	Sheffield, Hallam	Dore & Topley	Sheffield	Dore and Topley
Expanded	Expanded	Expanded	Expanded	Highfield	No; more facilities are being cut and some areas are more developed than others	S11 8DU	53.36968	-1.48034	434674	385994	spits.shades.blaze	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Expanded	Expanded	Kept same	Kept same	Dore	More investment in poor areas	S17 3DL	53.32967	-1.54742	430231	381512	veal.pill.reply	Sheffield, Hallam	Dore & Topley	Sheffield	Dore and Topley
Expanded	Expanded	Expanded	Expanded	Highfield	Definitely unequal have worked in some areas	S11 8YP	53.36556	-1.49389	433776	385529	occurs.dating.luxury	Sheffield Central	Highfield	Sheffield	Broomhill and Sharrow Vale

Kept same	Kept same	Kept same	No answer	No answer	No answer	Highfield	The elderly and white British community	53.36877	-1.474298	435077	385895	melt.sketch.today	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Kept same	Kept same	Kept same	Kept same	Kept same	Kept same	Parson Cross	Some neighbourhoods receive no	53.4293	-1.474425	435019	392629	dragon.strict.corner	Sheffield, Brightside-Parson Cross	Highfield	Sheffield	Southey
No answer	No answer	No answer	No answer	No answer	No answer	Highfield	I would agree. For example I went to	53.36623	-1.472085	435124	385615	shower.boast.reject	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Kept same	Kept same	Kept same	Kept same	Kept same	Kept same	Highfield	Sheffield is a polarized city, most	53.36786	-1.472085	435225	385795	purely.views.candy	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
No answer	No answer	No answer	Expanded	Expanded	Expanded	Parson Cross	Equal does not mean the same!	53.42984	-1.465597	435605	392705	giant.chimp.unlimited	Sheffield, Brightside-Parson Cross	Highfield	Sheffield	Southey
Expanded	Expanded	Expanded	Expanded	Expanded	Expanded	Highfield	Expence of different neighbourho	53.36957	-1.479864	434736	385992	reveal.sock.bunch	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Expanded	Expanded	Expanded	Kept same	Kept same	Kept same	Parson Cross	some areas have had work done	53.36912	-1.479404	434737	385932	rinse.racks.radio	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Expanded	Expanded	Expanded	Expanded	Expanded	Expanded	Parson Cross	Development focuses on the poor	53.4285	-1.474333	435152	392541	frils.movie.shot	Sheffield, Brightside-Parson Cross	Highfield	Sheffield	Southey
Expanded	Expanded	Expanded	Do not know	Do not know	Do not know	Parson Cross	No answer	53.43171	-1.48475	434331	392893	pinch.ricket.tools	Sheffield, Brightside-Parson Cross	Highfield	Sheffield	Southey
Kept same	Kept same	Kept same	Do not know	Do not know	Do not know	Highfield	Do not know	53.42968	-1.477912	434787	392670	float.runs.occurs	Sheffield, Brightside-Parson Cross	Highfield	Sheffield	Southey
Kept same	Kept same	Kept same	Do not know	Do not know	Do not know	Highfield	Yes	53.37166	-1.4678	435507	386220	detect.bank.water	Sheffield Central	Highfield	Sheffield	City
Kept same	Kept same	Kept same	Kept same	Kept same	Kept same	Parson Cross	I can't help notice that the roads	53.43029	-1.479921	434653	392737	woes.nuns.rapid	Sheffield, Brightside-Parson Cross	Highfield	Sheffield	Southey
Expanded	Expanded	Expanded	Expanded	Expanded	Expanded	Highfield	Clegg will look after his area, the	53.36622	-1.472607	435190	385633	wakes.seat.rods	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Kept same	Kept same	Kept same	Expanded	Expanded	Expanded	Highfield	Investment is targeted at the poor	53.36689	-1.472097	435225	385687	image.lape.motel	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Expanded	Expanded	Expanded	Expanded	Expanded	Expanded	Dore	No answer	53.32926	-1.539709	430753	381470	ding.verbs.nercy	Sheffield, Hallam	Dore & Trolley	Sheffield	Dore and Trolley
Expanded	Expanded	Expanded	Expanded	Expanded	Expanded	Dore	Different investments go to differ	53.32939	-1.538191	430854	381485	gently.about.nalls	Sheffield, Hallam	Dore & Trolley	Sheffield	Dore and Trolley
Expanded	Expanded	Expanded	Expanded	Expanded	Expanded	Dore	No answer	53.32765	-1.540612	430694	381290	shout.ounce.couple	Sheffield, Hallam	Dore & Trolley	Sheffield	Dore and Trolley
Expanded	Expanded	Expanded	Expanded	Expanded	Expanded	Dore	No answer	53.32452	-1.532974	431205	380946	evile.bikes.energy	Sheffield, Hallam	Dore & Trolley	Sheffield	Dore and Trolley
Expanded	Expanded	Expanded	Expanded	Expanded	Expanded	Dore	Probably not looking at some oth	53.32773	-1.531197	431321	381303	loss.damp.jungle	Sheffield, Hallam	Dore & Trolley	Sheffield	Dore and Trolley
Expanded	Expanded	Expanded	Expanded	Expanded	Expanded	Dore	No answer	53.32881	-1.524654	431756	381426	smashes.driver.figure	Sheffield, Hallam	Dore & Trolley	Sheffield	Dore and Trolley
Expanded	Expanded	Expanded	Expanded	Expanded	Expanded	Dore	No, Services, medical, transporta	53.32698	-1.541134	430646	381216	manual.gravel.golf	Sheffield, Hallam	Dore & Trolley	Sheffield	Dore and Trolley
Kept same	Kept same	Kept same	Kept same	Kept same	Kept same	Dore	Roads worse in our area, less pre	53.32402	-1.54487	430413	380885	noise.lasted.tree	Sheffield, Hallam	Dore & Trolley	Sheffield	Dore and Trolley
Kept same	Kept same	Kept same	Kept same	Kept same	Kept same	Dore	No answer	53.32799	-1.542485	430569	381328	stock.burst.mael	Sheffield, Hallam	Dore & Trolley	Sheffield	Dore and Trolley
Kept same	Kept same	Kept same	Kept same	Kept same	Kept same	Dore	Not even. Left wing council are	53.32865	-1.531682	431288	381406	forces.violm.chop	Sheffield, Hallam	Dore & Trolley	Sheffield	Dore and Trolley
Expanded	Expanded	Expanded	Kept same	Kept same	Kept same	Dore	Do not know	53.33021	-1.543362	430529	381574	logo.locker.sang	Sheffield, Hallam	Dore & Trolley	Sheffield	Dore and Trolley
Expanded	Expanded	Expanded	Kept same	Kept same	Kept same	Dore	I do not know	53.32402	-1.54487	430413	380885	noise.lasted.tree	Sheffield, Hallam	Dore & Trolley	Sheffield	Dore and Trolley
Expanded	Expanded	Expanded	Kept same	Kept same	Kept same	Dore	Do not know	53.32939	-1.538191	430854	381485	gently.about.nalls	Sheffield, Hallam	Dore & Trolley	Sheffield	Dore and Trolley
Expanded	Expanded	Expanded	Kept same	Kept same	Kept same	Dore	Some neighbourhoods receive mo	53.32506	-1.542411	430576	381002	faster.spot.rice	Sheffield, Hallam	Dore & Trolley	Sheffield	Dore and Trolley
Expanded	Expanded	Expanded	Do not know	Do not know	Do not know	Dore	No answer	53.32617	-1.531124	431327	381130	casino.order.gangs	Sheffield, Hallam	Dore & Trolley	Sheffield	Dore and Trolley
Expanded	Expanded	Expanded	Kept same	Kept same	Kept same	Dore	No answer	53.32937	-1.545449	430733	381102	serve.paused.mirror	Sheffield, Hallam	Dore & Trolley	Sheffield	Dore and Trolley
Expanded	Expanded	Expanded	Expanded	Expanded	Expanded	Parson Cross	About same. I believe that residen	53.43066	-1.468854	435388	392784	salads-cheese.frozen	Penistone and StocParson Cross	Highfield	Sheffield	Dore and Trolley
Expanded	Expanded	Expanded	Kept same	Kept same	Kept same	Parson Cross	No answer	53.43125	-1.482905	434454	392842	works.detail.taker	Sheffield, BrightsideParson Cross	Highfield	Sheffield	East Ecclesfield
Kept same	Kept same	Kept same	Kept same	Kept same	Kept same	Parson Cross	Some neighbourhoods receive mo	53.43021	-1.468972	435579	392944	seak.action.beside	Penistone and StocParson Cross	Highfield	Sheffield	East Ecclesfield
Kept same	Kept same	Kept same	Expanded	Expanded	Expanded	Parson Cross	No answer	53.43023	-1.475121	434972	392733	bank.light.shock	Sheffield, BrightsideParson Cross	Highfield	Sheffield	Southey
Kept same	Kept same	Kept same	Kept same	Kept same	Kept same	Parson Cross	I do, they are that some neighbour	53.43029	-1.468859	435388	392784	almost.surely.fall	Sheffield, BrightsideParson Cross	Highfield	Sheffield	Southey
Kept same	Kept same	Kept same	Kept same	Kept same	Kept same	Parson Cross	No, they are not Even. Places tha	53.43171	-1.48475	434331	392893	pinch.ticker.tools	Sheffield, BrightsideParson Cross	Highfield	Sheffield	Southey
Kept same	Kept same	Kept same	Kept same	Kept same	Kept same	Parson Cross	South of the city seems to get mo	53.43295	-1.476467	434681	393033	month.meals.sector	Sheffield, BrightsideParson Cross	Highfield	Sheffield	Southey
No answer	No answer	No answer	No answer	No answer	No answer	Parson Cross	No answer	53.4029	-1.470832	435258	392598	limbs.hardly.loft	Sheffield, BrightsideParson Cross	Highfield	Sheffield	Southey
Expanded	Expanded	Expanded	Kept same	Kept same	Kept same	Parson Cross	Do not know the bigger picture.	53.43009	-1.483807	434395	392713	lake.filled.locks	Sheffield, BrightsideParson Cross	Highfield	Sheffield	Southey
Expanded	Expanded	Expanded	Kept same	Kept same	Kept same	Dore	Neighbourhoods in the lower soc	53.32506	-1.542411	430576	381002	faster.spot.rice	Sheffield, Hallam	Dore & Trolley	Sheffield	Dore and Trolley
Expanded	Expanded	Expanded	Kept same	Kept same	Kept same	Parson Cross	No answer	53.43039	-1.485173	434304	392746	likes.moving.just	Sheffield, BrightsideParson Cross	Highfield	Sheffield	Southey
Expanded	Expanded	Expanded	Expanded	Expanded	Expanded	Parson Cross	No answer	53.43014	-1.476582	434875	392722	allow.winner.alert	Sheffield, BrightsideParson Cross	Highfield	Sheffield	Southey
Expanded	Expanded	Expanded	Kept same	Kept same	Kept same	Highfield	Sheffield is not developed well.	53.36912	-1.479404	434737	385932	rinse.racks.radio	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Expanded	Expanded	Expanded	Kept same	Kept same	Kept same	Highfield	One only has to look at campaign	53.36917	-1.478306	434810	385938	vines.risky.share	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Do not know	Do not know	Do not know	Do not know	Do not know	Do not know	No answer	Evenly	53.36781	-1.468704	435450	385792	tried.lower.dem.and	No answer	No answer	No answer	No answer
Expanded	Expanded	Expanded	Expanded	Expanded	Expanded	Highfield	Some neighbourhoods receive mo	53.36887	-1.469788	435377	385909	feed.tone.worked	Sheffield Central	Highfield	Sheffield	City
Expanded	Expanded	Expanded	Kept same	Kept same	Kept same	Highfield	No answer	53.36873	-1.477335	434875	385932	driven.narrow.bossy	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Do not know	Do not know	Do not know	Do not know	Do not know	Do not know	No answer	No answer	53.36899	-1.474611	435056	385920	takes.tune.club	No answer	No answer	No answer	No answer
Expanded	Expanded	Expanded	Do not know	Do not know	Do not know	No answer	No answer	53.36475	-1.473886	435121	385449	venus.waters.sulk	No answer	No answer	No answer	No answer
Expanded	Expanded	Expanded	Do not know	Do not know	Do not know	Highfield	No answer	53.37265	-1.469585	435422	386330	spaces.decay.swing	Sheffield Central	Highfield	Sheffield	City
Kept same	Kept same	Kept same	Kept same	Kept same	Kept same	Highfield	I do not know	53.3698	-1.467522	435527	386014	stand.wisely.lance	Sheffield Central	Highfield	Sheffield	City
Do not know	Do not know	Do not know	Do not know	Do not know	Do not know	Highfield	Poorer people and poorer areas	53.36539	-1.473138	435157	385536	resist.drove.common	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Kept same	Kept same	Kept same	Kept same	Kept same	Kept same	Highfield	Yes, as funding is low. Not a lo	53.36534	-1.474654	435056	385536	decay.lock.hurt	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Kept same	Kept same	Kept same	Kept same	Kept same	Kept same	Highfield	Some areas do seem to receive gr	53.36771	-1.476445	434935	385777	stores.acting.friday	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Kept same	Kept same	Kept same	Do not know	Do not know	Do not know	Highfield	Not evenly distributed. You can	53.36698	-1.472893	435172	385697	down.tripe.swear	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Kept same	Kept same	Kept same	Kept same	Kept same	Kept same	Highfield	No answer	53.36764	-1.473185	435152	385770	unless.free.vibrates	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Kept same	Kept same	Kept same	Expanded	Expanded	Expanded	Highfield	No answer	53.36801	-1.468251	435480	385835	grabs.tennis.moth	Sheffield Central	Highfield	Sheffield	City
Kept same	Kept same	Kept same	Do not know	Do not know	Do not know	Highfield	No answer	53.36822	-1.472607	435190	385935	image.lape.motel	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Kept same	Kept same	Kept same	Do not know	Do not know	Do not know	Highfield	No answer	53.36523	-1.473876	435108	385502	hunt.speak.camp	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Kept same	Kept same	Kept same	Kept same	Kept same	Kept same	Highfield	No answer	53.37124	-1.467144	435551	386174	lots.really.losses	Sheffield Central	Highfield	Sheffield	City
Kept same	Kept same	Kept same	Do not know	Do not know	Do not know	Highfield	No answer	53.36743	-1.47424	435082	385747	state.riders.tilt	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Expanded	Expanded	Expanded	Kept same	Kept same	Kept same	Highfield	Yes	53.37006	-1.481046	434627	386036	near.battle.dock	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow
Expanded	Expanded	Expanded	Expanded	Expanded	Expanded	Highfield	Yes	53.37006	-1.481046	434627	386036	near.battle.dock	Sheffield Central	Highfield	Sheffield	Nether Edge and Sharrow

Appendix VI Ethical approval



Downloaded: 20/08/2015

Approved: 07/08/2015

Pouyan Akbari

Registration number: 120185045

School of Architecture

Programme: PhD in architecture

Dear Pouyan

PROJECT TITLE: Just Urbanism: Mapping Space, (in)equality and subjectivity in the city

APPLICATION: Reference Number 003488

On behalf of the University ethics reviewers who reviewed your project, I am pleased to inform you that on 07/08/2015 the above-named project was **approved** on ethics grounds, on the basis that you will adhere to the following documentation that you submitted for ethics review:

- University research ethics application form 003488 (dated 27/04/2015).
- Participant information sheet 1007310 version 1 (23/04/2015).
- Participant information sheet 1007309 version 1 (23/04/2015).

Participant information sheet 1007307 version 1 (23/04/2015).

Participant consent form 1007311 version 1 (23/04/2015).

If during the course of the project you need to deviate significantly from the above-approved documentation please inform me since written approval will be required.

Yours sincerely

Email Arc Ethics

Ethics Administrator

School of Architecture

Appendix VI.a Information sheets

Information sheet for the survey

Information Sheet



Purpose

You are invited to participate in a research project regarding injustice and inequality in Sheffield. Your responses will be part of a PhD research on people's experiences of social, political-economy and spatial inequality and discrimination.

This research project maps existing injustice and inequality in the city and discovers existing injustices in the city as experienced by people. Resulted data is used to create maps that can potentially help designers and planners to better understand existing injustices in urban environment and to create more just cities.

Procedures

You are kindly asked to complete the attached survey. Your participation and responses are confidential. Please answer the questions as openly and honestly as possible. You may skip questions. The survey will take about 15 minutes to complete. You must be 21 years of age or older to participate. When you have completed the survey, please use the enclosed envelope to return it directly to:

Pouyan Akbari, PhD Candidate
Sheffield School of Architecture
The University of Sheffield
Arts Tower, Western Bank
Sheffield, S10 2TN
Tel: 0114 22 20399
p.akbari@sheffield.ac.uk

Comments provided will be analyzed using content analysis, anonymized and submitted as an appendix to the survey report. Quotes from submitted comments will also be used throughout the report to give "voice" to the quantitative data.

Benefits

The results of the survey will be part of a PhD and potential publication on injustice and inequality to give voice and help create better opportunities for people experiencing injustice. I am grateful to University of Sheffield for hosting and reviewing the survey and maintaining the integrity of our data.

Discomforts and Risks

There are no risks in participating in this research beyond those experienced in everyday life. Some of the questions are personal and might cause discomfort. In the event that any questions asked are disturbing, you may stop responding to the survey at any time.

Statement of Confidentiality

You are not obliged to provide any identifying information, such as your name, and information you provide on the survey will be **anonymized**. The data will be accessed only by the researcher and supervisor up to five years after the data collection date for the purpose of this research. In the event of any publication or presentation resulting from the research, no personally identifiable information will be shared. Please also remember that you do not have to answer any question or questions about which you are uncomfortable.

Voluntary Participation and Consent

Participation in this research is voluntary. If you decide to participate, you do not have to answer any questions on the survey that you do not wish to answer. **By completing the survey, your informed consent will be implied**. Please note that you can choose to withdraw your responses at any time before you submit your answers. Refusal to take part in this research study will involve no consequences.

Right to Ask Questions

You can ask questions about this research. Questions concerning this project should be directed to:

Pouyan Akbari, PhD Candidate
Sheffield School of Architecture
The University of Sheffield
Arts Tower, Western Bank
Sheffield, S10 2TN
p.akbari@sheffield.ac.uk
Tel: 0114 22 20399

OR my PhD supervisor

Prof. Doina Petrescu
Sheffield School of Architecture
The University of Sheffield
Arts Tower, Western Bank
Sheffield, S10 2TN
Tel: 0114 22 20399
d.petrescu@sheffield.ac.uk

If you preferred, you can also answer this questionnaire by scanning the QR code bellow using your electronic devices camera (phone, tablet and etc.) or go to the following link:

<http://goo.gl/JLNgsh>



Or go to this link:

<http://goo.gl/JLNgsh>

Information Sheet for interview



Purpose

You are invited to participate in a research project regarding injustice and inequality in Sheffield. Your responses will be part of a PhD research on people's experiences of social, political-economy and spatial inequality and discrimination.

This research project maps existing injustice and inequality in the city and discovers existing injustices in the city as experienced by people. Resulted data is used to create maps that can potentially help designers and planners to better understand existing injustices in urban environment and to create more just cities.

Procedures

You will be asked to participate in an interview and a mapping activity. Your participation and responses are confidential. Please answer the questions as openly and honestly as possible. You may skip questions. The interview and map making process take about 45 minutes to complete. You must be 21 years of age or older to participate.

Comments provided will be analyzed using content analysis. Quotes from submitted comments will also be used throughout the report to give "voice" to the quantitative data.

Discomforts and Risks

There are no risks in participating in this research beyond those experienced in everyday life. Some of the questions are personal and might cause discomfort. In the event that any questions asked are disturbing, you may stop responding to the survey at any time.

Benefits

The results of the interview will be part of a PhD and potential publication on discrimination and injustice to give voice and help create better opportunities for people experiencing injustice. I am grateful to University of Sheffield for hosting and reviewing the survey and maintaining the integrity of our data.

Statement of Confidentiality

You are not obliged to provide any identifying information, such as your name, and information you provide on the survey will be **anonymized**. The data will be accessed only by the researcher and supervisor up to five years after the data collection date for the purpose of this research. In the event of any publication or presentation resulting from the research, no personally identifiable information will be shared. Please also remember that you do not have to answer any question or questions about which you are uncomfortable.

Voluntary Participation and Consent

Participation in this research is voluntary. If you decide to participate, you do not have to answer any questions that you do not wish to answer. You will be asked to sign a form to provide your consent to participate in this interview. **By participating in the interview and mapmaking activity, your informed consent will be implied.** Please note that you can choose to withdraw your responses at any time. Refusal to take part in this research study will involve no consequences.

Right to Ask Questions

You can ask questions about this research. Questions concerning this project should be directed to:

Pouyan Akbari, PhD Candidate
Sheffield School of Architecture
The University of Sheffield
Arts Tower, Western Bank
Sheffield, S10 2TN
pakbari1@sheffield.ac.uk
Tel: 0114 22 20399

OR my PhD supervisor

Prof Doina Petrescu
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The University of Sheffield
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Sheffield, S10 2TN
Tel: 0114 22 20399
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