

People, Health and the City



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Masters of Architecture Thesis Dissertation

Abstract

The overarching goal of this thesis is to explicitly discuss the multiple pathways through which the built environment may potentially affect health and well-being.

There is strong evidence to suggest that the loss of close collaboration between urban planning and public health professionals, that characterize the post World War II era, is thought to have limited the design and implementation of effective interventions that might have improved health for urban populations (Northridge, 2003). In addition, Jackson (2003) feels that society at large benefits from increased participation in designing homes. It is widely recognized that the quality of the urban environment exerts a major affect on health and well-being (Ashton, 1992). We are currently living in an age of unprecedented urban growth, where reasonable predictions estimate that this will continue until at least 2050. At this point two thirds of the global population is expected to live in urban areas (Prasad, 2014). In order to meet the demand for housing Aravena (2014) calucualted that we will need to build a 1,000,000 people city per week.

Participation in design has many benefits from social to economic and sustainable. The governments drive to improve community strength, health and well-being can be addressed using citizen participation in design.

Through analysis of two international case studies, arguments are made in support of adopting these innovative models for participatory design in the UK. Through valuing citizen consultation, these projects have proved that the resultant architecture is highly liveable, sustainable and diverse. The final building represent how one idea can manifest in many forms, creating diverse and complex built places which truly represent our individuality.

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Introduction

“A healthy city is one that is continually creating and improving those physical and social environments and expanding those community resources which enable people to mutually support each other in performing all the functions of life and developing to their maximum potential” - Hancock and Duhl (1986:7)

The aim of this written thesis is to explore a total collaborative approach in the ongoing development of our cities and how this could improve citizen health and well-being. This will be broken down into three main sections; **Urban Design and Health, Improving Health and Well-being through Participatory Design and Design isn't just for Designers.**

The World Health Organisation (WHO) describes health as a *“state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”* (1946:1). Furthermore they recognise health as a basic human right which nation states are obliged to help their citizens achieve.

Well-being as a subject is surprisingly overlooked (Jackson, 2003) and Bächman (2013) defines it as a concept that refers to quality of life in a broader context than just health, income and social relationships. Conversely, it is something that is experienced individually and subjectively which is, at the same time, fundamentally social and dependent on the built environment (Bächman, 2013).

The first section, **Urban Design and Health**, places the topic within its historical context, from the sanitation movement in the 1840's up until the current day. A more in depth historical understanding of the mutual interests shared between urban design and public health highlights whether we should consider resurrecting this collaboration in planning our cities today. Although health and well-being have not always driven urban design, it is important to remember that this was the original impetus behind city planning in the early 19th Century (Jackson, 2003). It will be demonstrated how the impact of UK housing on our health and well-being is both long standing and wide reaching. Although health and well-being could be reviewed globally, in order to create a succinct paper, the research conducted focuses primarily on British history and where relevant international acknowledgement is given.

Improving health and well-being through Participatory Design introduces end user involvement as a tool for improving health in the city. The need for increased participation in the design process is explored, where academics in support of this view are highlighted. Within the global context, inequality is shown to be easily understood, however arguments will be made to show that inequality in UK housing is widespread and needs addressing.

Design isn't just for Designers challenges the current values and practices within urban design and proposes alternative models in which teams of mutually dependent designers, health care professionals and citizens work together. These arguments are further supported through the analysis of two case studies; Vauban, Freiburg in Germany and Ville Verde, Constitución in Chile. The case studies have been selected specifically to demonstrate two key ways in which participatory models can be implemented and achieve successful results in large-scale housing projects.

Finally, the **Conclusion** draws all of these ideas together and provides recommendations for utilizing a collaborative approach as a means of improving health and well-being.

2

Urban Design and Health

“For most of recorded history, cities have been very unhealthy...” - Freeman, 1985; cited Hancock and Duhl (1986:12)

There has always been a close relationship between health and the city. In fact, the origin of urban planning came out of the public health movement of the mid 19th Century (Oberlander, 1985). At its core, urban design is *‘the process of making better places for people than would otherwise be produced’* (Carmona et al, 2010:57).

After outbreaks of typhoid epidemics in the late 1830’s, Chadwick was appointed by the British government to conduct a report into sanitation in cities (Trueman, 2015). Chadwick highlighted in the *‘The Sanitary Conditions of the Labouring Population’* report (1842), that as a result of badly ventilated houses in Dublin, 2,944 children died. Following recommendations from health care professionals to improve ventilation, the deaths in the same period of time reduced drastically to 279 child deaths. Findings within this report conclude that in order to improve health in cities urban planning was more essential than the health services (Noak, 1985).

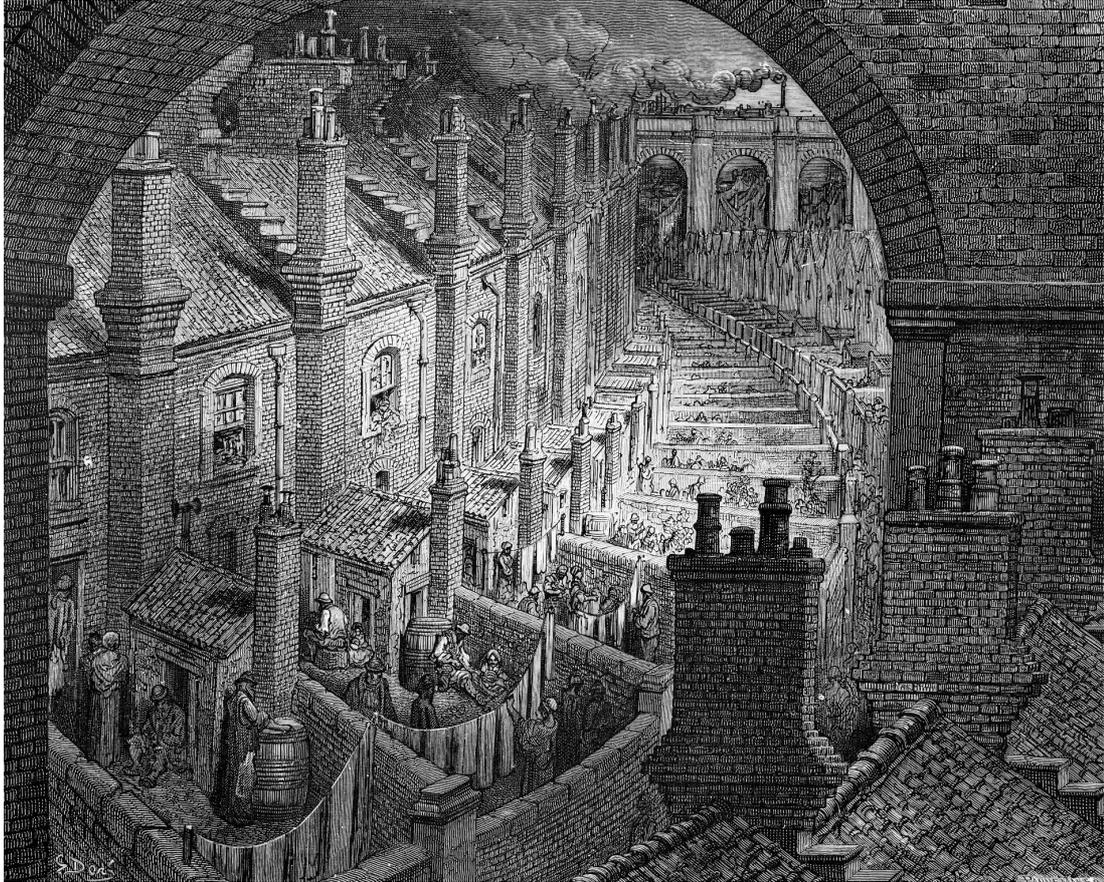


Fig.1 – Densely populated slum like living condition in London, Gustave Dore (1872).
Source The British Library.

Chadwick's work advocated improved health through building control, which was a slow process and only reached its peak in 1875 (Hebbert, 1999). This year marked the passing of the Public Health Act (1875) and the following year Mr. Benjamin Ward-Richardson, a prominent surgeon, was influenced by Chadwick's work and published the paper '*Hygiea – A City of Health*', (1876). This paper included his vision for future cities, to include; clean air, access to small local hospitals, improved public transport and integrated occupational health measures to ensure the physical, mental and social well-being of citizens.

It is believed Ward-Richardson's ideas influenced Ebenezer Howard (Cox and Hope, 2008), who is most famously known as the creator of the '*Garden City*' movement in the late 19th Century. Having had no formal design

training, Howard's work was inspired by radical theorists and utopian ideals (Ashton, 1990). In 1898 he published his own vision in the book '*To-morrow: A peaceful path to real reform*'. Howard identified overcrowding as the source of urban ills, but recognized that despite poor living conditions, people are drawn to cities due to prospects of higher wages and greater social opportunities. Howard's proposal combined benefits from both urban and rural settings by uniting them in the Garden City model (Macdonald and Larice, 2013).

The hard work and lobbying of the Garden City Association resulted in the passing of the *Garden Suburb Act* in 1906, which was shortly followed by the *Town Planning Act* in 1909. These acts set out new standards including; 50ft spacing between rows of housing and a limit of eight houses per acre. The importance of these acts cannot be overlooked; they were critical in developing guidelines for promoting healthy towns and cities (UK Parliament, 2012). Although utopian in principle, Howard's design proved to be both practical and attainable and by 1903 work on the first garden city at Letchworth began. (Fig.2)

closure of slums and legalizing living standards of new buildings. These changes contributed to radical improvements in life expectancy in Britain (Wohl, 1983), where an 18 percent fall in the death rate was seen between 1861 and 1901 (Hebbert, 1999).

Following the introduction of statutory town planning in Britain, Dr. John Roberston published *'Housing and Public Health'* (1919), in which he states that *"no single condition in the lives of the masses has such a damaging effect on health, or does harm in so many other ways, as bad housing"* (1919:v). Robertson (1919) stresses the positive effects urban planning can have on public health and as a direct result the Ministry of Health in 1919 formally acknowledged this and united health care with planning and sanitation (Hebbert, 1999).

Nevertheless, after World War II, the close connection between public health and urban design was lost and for the remainder of the 20th century, health and urban design took separate paths. Health became part of the National Health Service (NHS) and urban design became a function of local government (Blackman, 2014).

By the mid 1960's, local governments schemes stated to replace substandard 19th century tenements with high rise flats, this was met with much resistance from the public. Furthermore, when the tenants moved in to the flats, psychological and social side effects were exposed almost immediately, where isolation and loneliness became endemic. These mental health problems include alienation, isolation and depression (Moore, 1975; cited Cooper et al, 2008). Later studies showed that those living in blocks of flats with five or more floors were twice as likely to suffer from mental health issues than those living in terraced housing (Hannay, 1980).

Growing social tension from the issues associated with high rise flats initiated a change of direction in the 1970's. Architectural theorists such as Christopher Alexander and Jane Jacobs advocated a new method of urban planning, grounded in citizen participation and community control. Jacobs stated that *"cities have the capability of providing something for everybody, only because, and only when, they are created by everybody"* (Jacobs, 1961:238).

Although we no longer face the same problems of substantial overcrowding and widespread outbreaks of infectious diseases of the 19th century, Chadwick's belief that urban design is more important than the health service is arguably still true today. Current health problems such as obesity, heart disease and depression are conditions of modern lifestyles and come out of city living patterns. Lower physical demands and technological innovations foster more sedentary lifestyles and the implications pose a major threat to 21st century city dwellers (Faskunger, 2013).

3

Improving health and well-being through participatory design

"Urban design is a powerful tool for improving human health condition" - Jackson (2003:199)

The World Health Organization (WHO) (2010) identified urban growth as a key concern for future populations and, for the first time in human history, the majority of the global population live in urban places. The quality of the

urban environment and its effect on citizens is therefore an issue relevant to researchers, policy makers and citizens alike (Pacione, 2003).

With regard to the future of housing in the UK, we need to consider improving health and well-being through participatory design due to conclusive evidence, that where people live influences their health (Prasad, 2014). In addition, Barton et al (2007) state the links between poor physical and mental health and housing conditions have been recognized for a considerable time. This is further supported by The British Medical Association (BMA) (2003) who found that asthma, arthritis, rheumatism, heart disease and poor mental health are all associated with damp housing and poor ventilation. We can therefore see that by moving individuals to an improved quality environment, improves their well-being (Cooper et al, 2008).

Within the global context, inequalities in living standards are easily understood. Health disparities between nations around the world vary drastically from advanced high-rise cities to urban slums. Paradoxically, it is a much more difficult concept to accept the serious health inequalities that exist here in the UK. Research has shown that a person living in Kensington has an average life expectancy of 88 years. However, just a few kilometres away in Tottenham Green, the average life expectancy is just 71 years of age (Marmot et al, 2010:29).

During the 1970's, many architects began developing a new method of design that allowed more participation by future users. The most famous example in the UK is Walter Segal. His pioneering idea for a collaborative design processes is a timeless model that can still be applied to this day. Segal's approach reduced architecture to the bare essentials, thereby enabling

people to understand and contribute, not only to the design process but also to the construction of their future homes. The basic modular design relied on a grid and utilized materials that could be easily and locally sourced. Segal empowered users (Fig.3) and the result was not only high quality timber frame homes, but also strong vibrant communities (Broome, 2015). Although the small number of Segal's projects to be realized were successful and provided inspiration for future architects (Jones, Petrescu and Till, 2012), the modular participatory model was never used for providing mass housing.

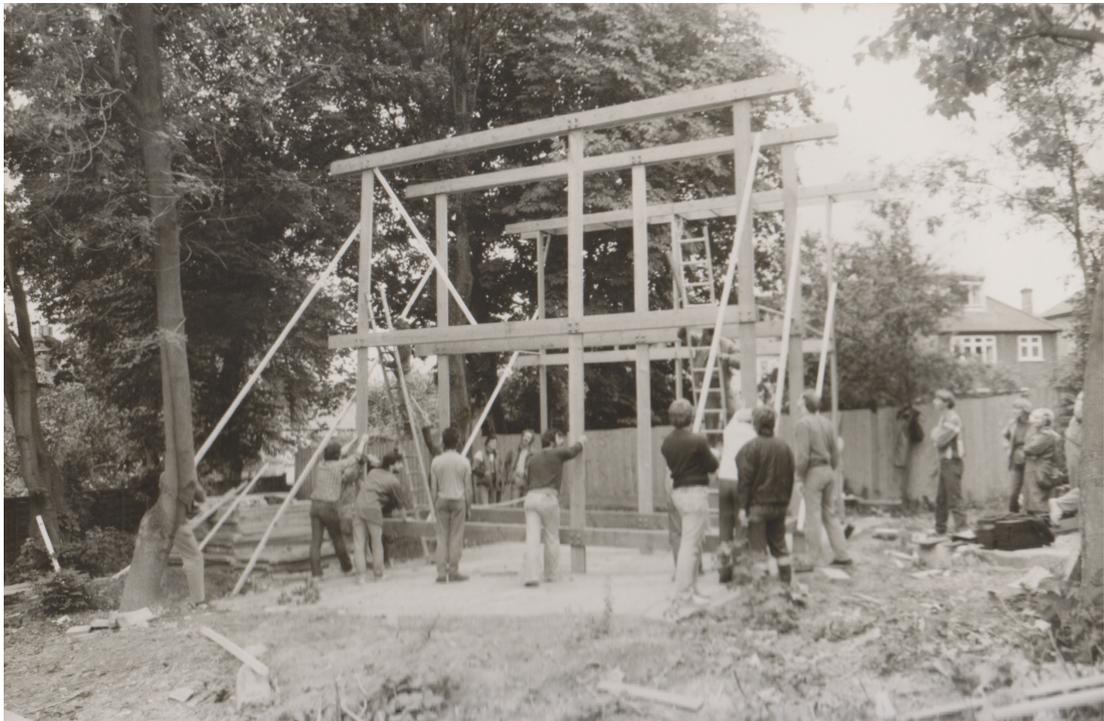


Fig.3 – Frame raising Walters Way (1984) – Source Jon Broome.

Hancock and Duhl (1986) set out eleven parameters for a healthy city (Fig.4). Point one expresses the need to create clean, safe and high quality homes. In addition, point four addresses the need to increase the degree of public participation and control over the decisions affecting one's life, health and well-being.

1. A clean, safe, high quality physical environment (including housing quality).
2. An ecosystem which is stable now and sustainable in the long term.
3. A strong, mutually-supportive and non-exploitative community.
4. A high degree of public participation in and control over the decisions affecting one's life, health and well-being.
5. The meeting of basic needs (food, water, shelter, income, safety, work) for all the city's people.
6. Access to a wide variety of experiences and resources with the possibility of multiple contacts, interaction and communication.
7. A diverse, vital and innovative city economy.
8. Encouragement of connectedness with the past, with the cultural and biological heritage and with other groups and individuals.
9. A city form that is compatible with and enhances the above parameters and behaviours.
10. An optimum level of appropriate public health and sick care services accessible to all.
11. High health status (both high positive health status and low disease status).

Fig.4 – Parameters of a Healthy City (1986). Source Handcock and Duhl.

Conversely, Lindheim and Syme (1983) state there is no set template for a “healthy” living environment. Instead they feel the most healthful urban design provides a structure of basic services thus allowing citizens the opportunity to shape their homes and neighbourhoods. Marmot (2010) agrees that participation of people in their communities has a massive potential to improve many aspects of health and well-being. Jackson (2003) states *“citizens will benefit by taking an active role in shaping their environment.”* (2003:198). Nevertheless, it would be naïve to believe that improving participation in housing will solve all health issues (Hartman et al, 2013). Finally, Hancock (1993) clarifies that healthy cities are not necessarily those with high levels of health, but rather they are cities that constantly strive towards improved health by considering health with every decision made.

In accordance with Maslow's theory (Fig.5), achieving a level of social and emotional wellbeing requires individuals to meet the higher levels of need (Gorman, 2010). Furthermore, Asad (2015) makes clear that basic needs are likely to be met by decisions makers without direct participation. However, moving up through the hierarchical levels increases the complexity of an individuals needs, and active participation becomes essential.

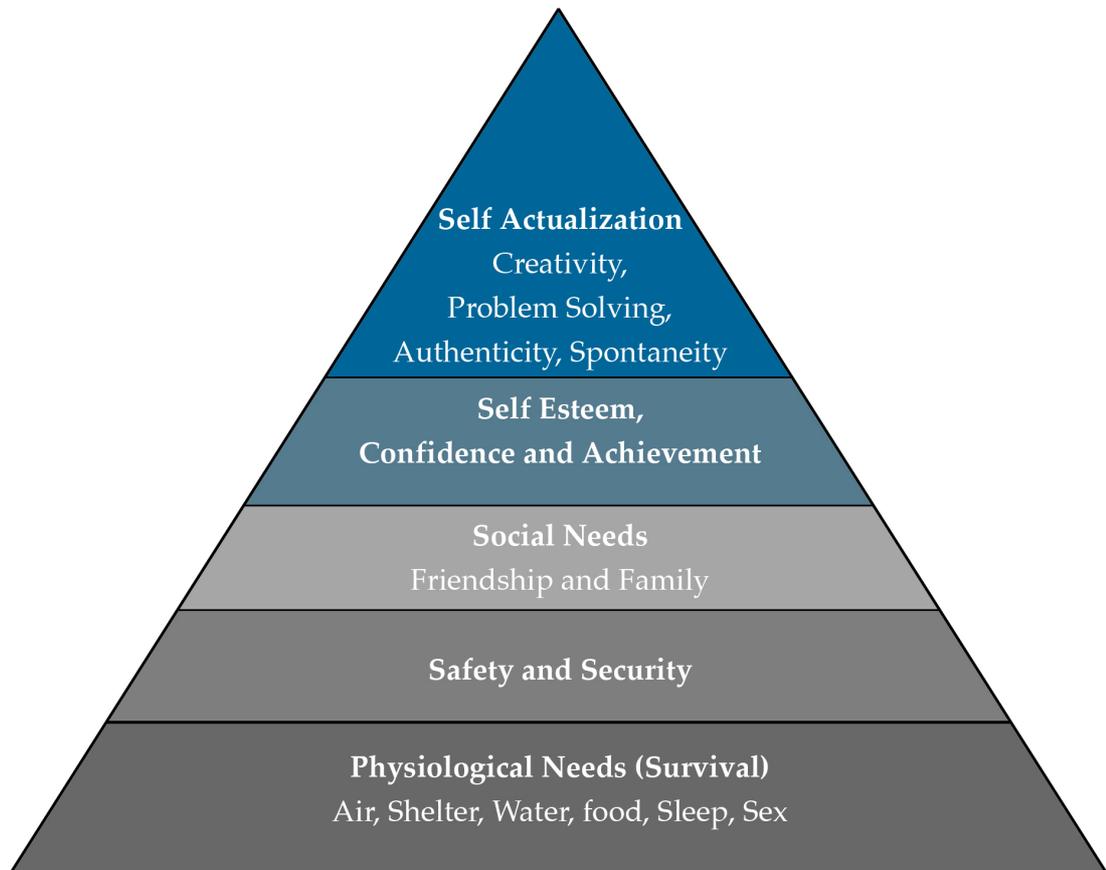


Fig. 5 – Maslow's Hierarchy of needs (1943). Source Communicationtheory.org. Amended Cooper (2016).

Research highlights the scarcity of true participatory models in the built environment, and in parallel argue that it is becoming increasingly needed in our society. *"If people are to feel a sense of belonging to the world in which they live, an involvement in the space they inhabit is a good starting point"* (Jones et al, 2013:xiv). Additional research shows that people in the UK move on average eight times over their lives, which is damaging to the creation of strong

communities (Johnson, 2013). In addition, Stevens (2013) highlights that those involved in the design of their home move on average once every 25 years, compared with the national average of 6 year. Marmot et al (2010) recognizes that strong communities are essential for the physical and mental health and well-being of citizens. Although creating strong communities has been a key objective in UK housing policy for a long time (Parvin et al. 2011), policies and strategies do not seem to be aligning with academic recommendations (Ellis, 2011). Nevertheless, Marmot states that change will happen through improved national policies delivered at community level where this will empower individuals and local communities to effect change.

There is also the question raised over how much participation actually gives citizens power. Some argue that the degree to which individual needs are met is not important, as benefits still arise from allowing individuals to influence the decision making process (Sanoff, 1985). As shown in Fig.6, Arnstein's 'Ladder of Participation' (1969) ranges from a token gesture to complete citizen power. At present it could be argued that the majority of participation in the UK's built environment gives users no power or is merely a token gesture aimed at placating them. In addition, while some organisations may speak of 'empowering' users, this may be more to appease official standards rather than reflecting the underlying enthusiasm and ethics to involve future users in the decision making process (McKee and Cooper, 2008)

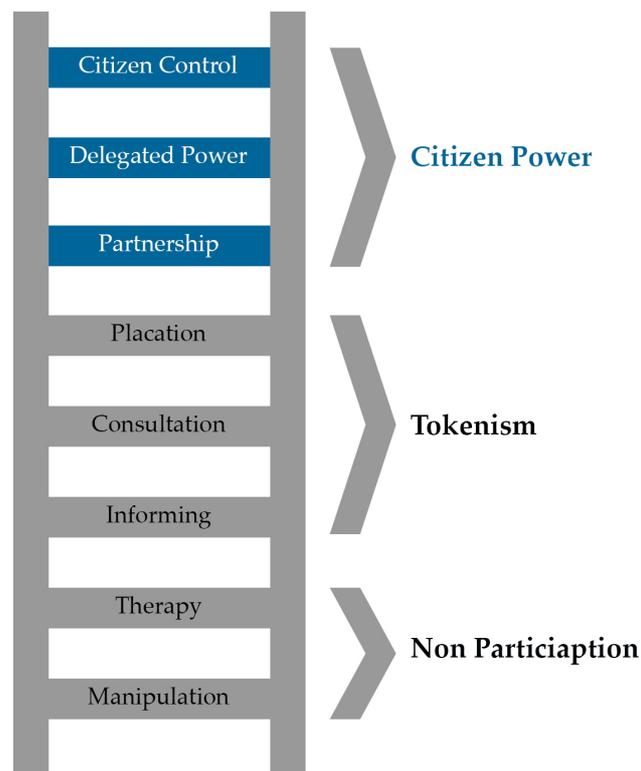


Fig.6 – Sherry Arnstein ‘Ladder of Participation’ (1969). Adapted Cooper (2016)

Consequently, some argue that citizens should more be demanding and be allowed more involvement. Turner (1972) justifies this point and states that user-controlled housing is far better at delivering improved personal and social growth when compared with housing which is merely supplied. Furthermore, Feo and Hurtado (2006) claim that through “*acceptance of what is on offer means acceptance of someone else’s values, definitions of normality, culture and desires*” (2006:179). They go on to urge citizens to claim responsibility for one’s own environment as a way of safeguarding individuality.

Whilst in theory the prospect of increasing participation in the design process is credible, there is no standard method of participation. In each context there will be multiple users with singular desires and aspirations. However, in all projects, decisions need to be made and the question here is ‘who will make the final decisions?’ Another key consideration of

democratizing the design process through participation is the question of ‘who should participate?’ (Child, 2015).

Jones et al (2013) emphasizes the need to consider that participation presents a threat to normative architectural values. He goes on to argue that this should not be seen as a challenge, but as an opportunity to resuscitate architecture. Furthermore, Beyerle (2013) argues that participation enhances and enlarges the role of the expert. Chevin (2014), urges housing professionals to engage with health care decision makers to develop new ways of working.

In 2014, the UK government launched a ‘Right to Build’ campaign and are taking positive action by recording national well-being (Jackson, 2003), this signifies a refocusing of priorities by policy makers into health and well-being in urban design once again. The Marmot Review (2010) stresses that *“Economic growth is not the most important measure of our countries success. The fair distribution of health, well-being and sustainability are important social goals”* (Marmot et al, 2010:9). Similarly, the British prime minister David Cameron echoed this sentiment in his speech at the Google Zeitgeist Europe conference stating *“It’s time we admitted that there’s more to life than money and it’s time we focused not just on GDP but on GWB – general well-being”* (2011).

Nevertheless, tackling inequality in cities is not just a social justice issue; it is also an economic one (WHO, 2010). Promoting healthier physical and social built environments can result in enormous financial reductions to health care in both the short and long term (Prasad et al, 2014). Davidson et al (2010) estimate that the detrimental effects of bad housing in the UK cost the NHS at least £600 million per year. There is a general acceptance that we need to move beyond economic growth to improving well-being in society (Marmot

et al, 2010). Cooper et al (2008) urge those in charge of creating and managing cities to make decisions based on evidence available on how they can improve the health and well-being of citizens.

Modern nations tend to measure success with Gross Domestic Product (GDP). With a better working economy, it is assumed that this results in happier citizens. The truth of the matter, however, is explained with the Easterlin paradox (Fig.7). Economist Richard Easterlin (1974) published a study that, despite popular belief, demonstrated that there is no correlation between wealth and well-being. More recent evidence from the New Economics Foundation shows that despite the UK's GDP doubling since 1970, life satisfaction has hardly changed (Fig.8).

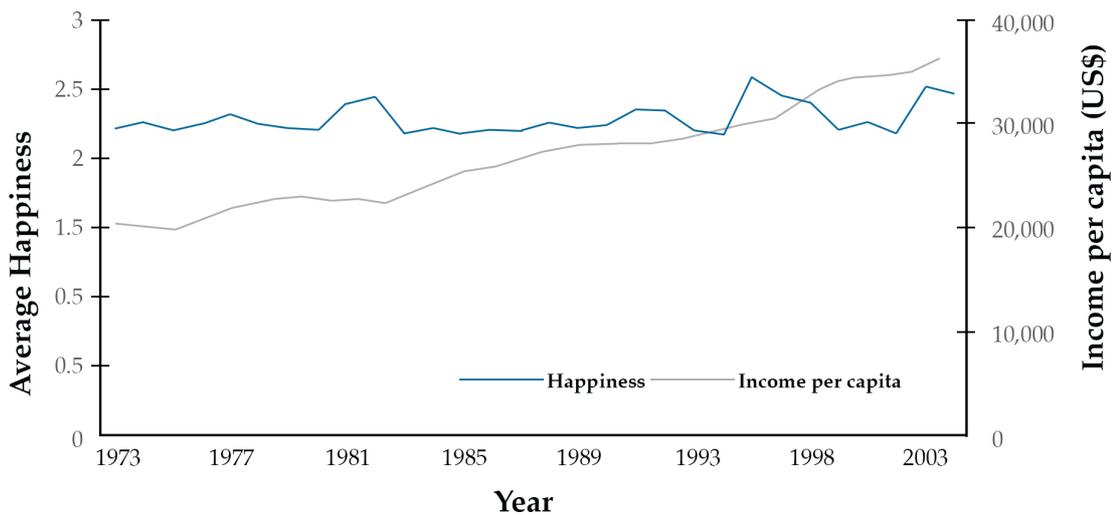


Fig.7 – Easterlin Paradox – Happiness vs. Income (2010). Source The Sustainability Review. Amended Cooper (2016).

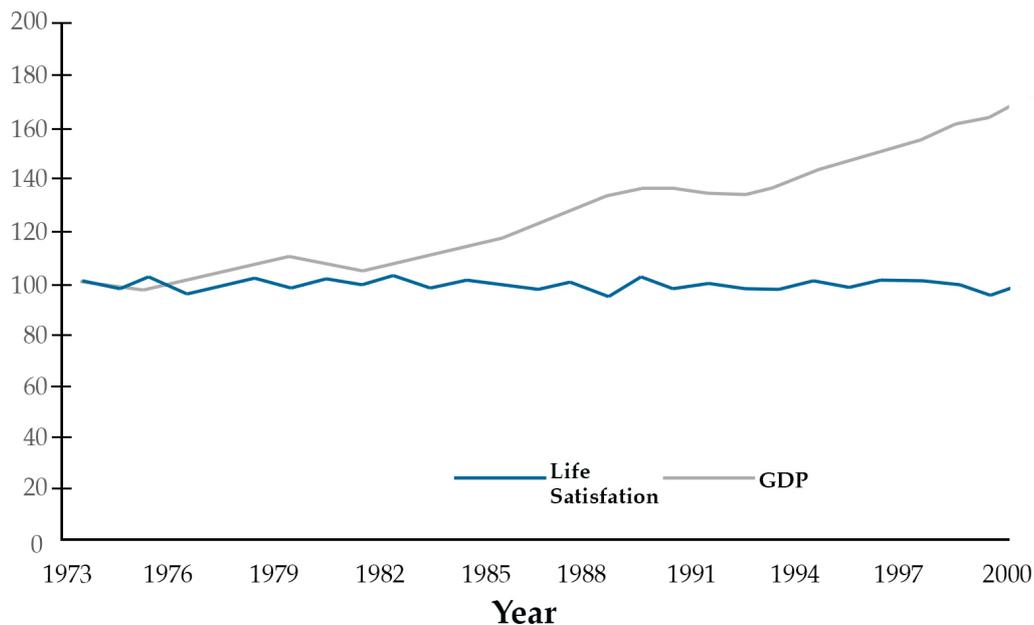


Fig.8 – Economic Growth in the UK compared with Life Satisfaction (2011). Source The BBC. Amended Cooper (2016).

The Office of National Statistics (ONS) has been responsible for recording well-being in the UK since 2010. As the largest single investment people are likely to make in their lifetime, our homes and how we feel about them is vital to assessing a person’s well-being. ONS have recorded a strong correlation between life satisfaction and housing satisfaction across the UK. Positive feelings about where we live are likely to create strong and inclusive communities. In turn, these communities are acknowledged for generating improved physical and mental health amongst its inhabitants (ONS, 2015).

It is worth noting that much of what is recommended to improve the health and well-being of citizens such as, active transport, public transport, energy efficient homes, availability of green space, healthy eating and reduced carbon-based pollution can also be found on the sustainability agenda. Furthermore, research indicates that putting the end user to the beginning of the design process drives a better quality product (Steinfeld and Maisel, 2012).

Design isn't just for Designers

“Architecture has become too important to be left to architects” - Carlo (2007:13)

Rapid urbanization is one of the biggest challenges to face Architects and Urban Designers in the 21st century. The rate of expansion is unprecedented and has created a whole new design problem that has never faced before. Aravena (2014) states that in order to meet the housing demand over the next fifteen years, we will need to build a one million person city per week with a budget of approximately \$10,000 USD per house (Fig.9).

$$X = \frac{1,000,000 \text{ people} \times 7 \text{ days} \times \$10,000}{15 \text{ years}}$$

Fig.9 – Alejandro Aravena’s equation to meet housing demand (2014). Source Ted.com. Amended Cooper (2016).

In order to meet this demand, some believe that the answer lies in architects working towards a collaborative approach, which incorporates mutual dependency between designers, planners, health care professionals and future building users. As part of a larger team Dovey (2010) argues that the role of the architect is to unite design imagination with public interest to inspire visions of a better world. Carlo (2007) argues that the barriers between professionals and clients, needs to be abolished in order to create a process where the design phase and users needs are integrated.

As a design tool, we have evidence that participation has the ability to improve the health and well-being of citizens. Shifting the power from individual designers to a team of professionals will only enhance the potential

outcomes. It is worth noting, however, that participation isn't always beneficial to citizens. McKee and Cooper (2008) argue that empowering users is in itself a means of regulating behaviour and is in this case a form of control. Pawson et al (2012) links this to the simple idea that with power comes responsibility and participation can therefore be both liberating and controlling.

Feo and Hurtado (2006) believe design is simply a way of thinking, which comes out of the need to find a solution to any given problem. At this simplistic level, everyone could be considered a designer. In reality, however, *“design is an integrative and fundamentally cross-disciplinary practice that operates in a complex environment of different and in many cases conflicting values, methods, occupational roles and responsibilities, historical legacies both positive and negative, and societal forums and practices”* (Bäckman, 2013:9). In order to allow for participation from citizens, it is essential to create a framework or structure through which the navigation of this complex process can occur. Alexander (1978) explains that a framework which is loose and based on social responsibility is more likely to attract participation, rather than a process based on legislation or coherence in which participation is likely to feel forced.

In order to explore the effects of participation on housing, case studies have been evaluated. Two international examples have been selected to explore methods of including end user participation in the design process. Both represent the private and public sector housing in order to express that participation should not be exclusive to one type of housing. They both fall into the top section of Arnstein's ladder of participation which gives citizens genuine control (Fig.6).

Case Study 1 - Vauban, Freiburg - Germany

Vauban is a new city district in Freiburg, Germany. This large-scale housing development accommodates 5,000 people, focused on participation and co-operation, resulting in strong public engagement throughout all phases of the development. This engagement allowed future residents, through workshops and meetings, to help in the design of the overall vision and masterplan. The process of co-defining aims, and strategies to meet those, had a direct impact on the quality of place created. The final masterplan (Fig.10) focused on improving public transportation links and creating a network of shared open spaces, which would encourage social interaction.

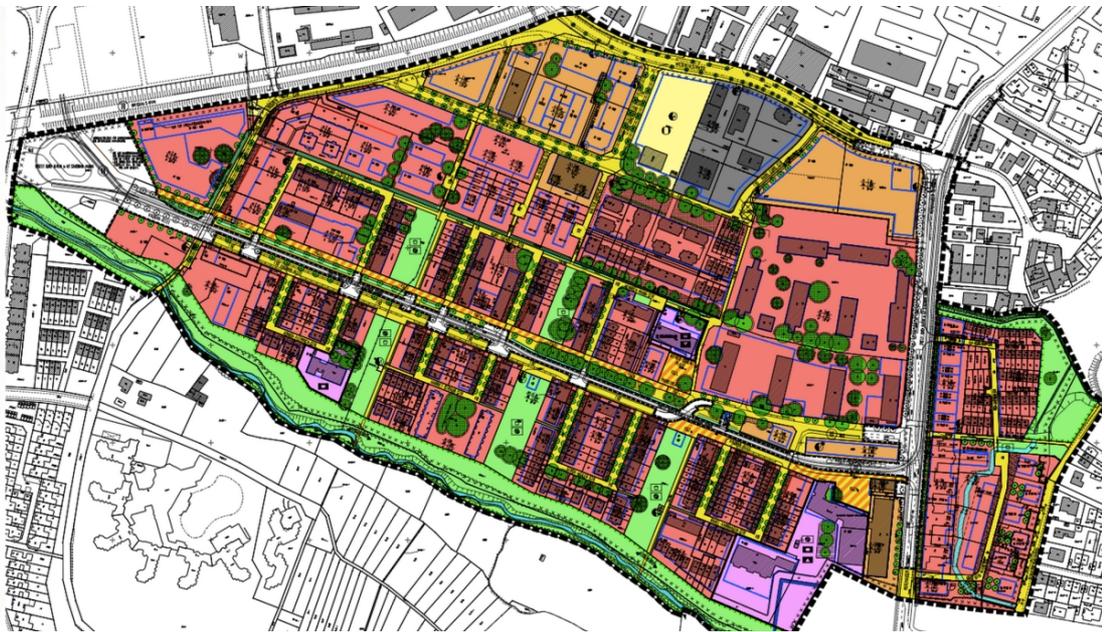


Fig.10 – Vauban Masterplan (2015). Source Transition Magazine.

Barton et al (2015) highlight that although some may doubt the level of citizen participation as offered in Vauban, the outcome of such a contribution from future users created a highly liveable, sustainable and inclusive community. Consideration given to the needs of future residents resulted in a district where air pollution and traffic danger are low, and contact with nature and local amenities are close by. These resultant design features help support and sustain healthier lifestyles (Fig.11). Furthermore, long after completion, there are still a large number of residents involved in local initiatives further strengthening the community (Vauban Housing, 2015).



Fig.11 – Final Buildings, Vauban (2014). Source Steve Melia.

Case Study 2 - Villa Verde, Constitución - Chile

Following the 2010 earthquake and tsunami that devastated the Chilean city Constitución, architect Alejandro Aravena was commissioned to design 484 homes for displaced families. From the outset of the exploration and definition of design constraints, Aravena collaborated with the future occupants (Arch Daily, 2013). From the initial stages it was clear that with the government funding, it would be impossible to build suitable family sized homes. As a team, the designers and residents reached the conclusion that it would be better to build half of a good house, rather than a whole house which was too small (Lafarge Holcim Foundation, 2014). This innovative architectural solution employed methods of incremental construction with a social framework that encouraged personal investment from future inhabitants (Watson, 2014) (Fig.12 & 13).



Fig.12 – Initial completion, Villa Verde (2013). Source Dezeen.



Fig.13 – User development, Villa Verde (2016). Source Dezeen.

The resultant idea perfectly captures Aravena's belief that for the most complex problems, what is often required is a simple solution (Aravena, 2014). Allowing participation throughout all stages of the design produced homes that fulfilled the users' needs whilst staying within the budget. Ultimately the architecture is one that no longer stands still in time, but rather plays with time. Residents are free to adapt and modify their homes as their needs change over time.

Summary

Large-scale housing developments that involve citizen participation are rare. The reasons for this are the additional complexity, time and costs required to meet individual requirements, often outweigh the benefits. As we can see from the two case studies analyzed, the key to creating a successful participatory model of mass housing is the implementation of an overall framework, which allows for future customization and development.

As examples both shared similarities in inviting citizen participation from the inception stages, resulting in the health and well being of future users influencing the decision making process.

Both case studies selected are strong representations of how user participation can be included in large-scale housing developments. The outcome of both were end products which fulfilled the basic needs of housing whilst, in addition, gave residents an increased sense of power and connection to the place they live.

The case studies selected were both government led, leading to an understanding that in order to achieve success in large scale participatory projects, requires commitment to health and well-being comes from a top-down approach.

5

Conclusion

“A crisis is a terrible thing to waste” – Paul Romer

The focus throughout this thesis has been on urban design and its effects on the health and well-being of citizens. A history of the relationship between health services and urban planners has been reviewed, showing at first a close collaboration and after WWII a separation of interests. In more recent times, modern health and urban movements are becoming closer again with a focus on utilising participatory techniques for improving health and well-being.

Whilst it has previously been stated in this report, it bears repeating that the connections between urban design and health are not new. The links between poor housing and poor health are now well-established. Many, possibly hundreds, of cross-sectional studies have reported consistent, significant associations between poor housing conditions and poor health.

Although there is a general understanding that the home is an important factor effecting health and wellbeing. Experts are, now more than ever, emphasising the role of good housing in giving individuals a chance to experience the best standards of life. Jon Rouse, Director General at the Department of Health, says the challenge facing health and care

organisations is huge. He urges housing professionals to engage with health care decision makers to develop new ways of working (Chevin, 2014). With urban populations increasing at an unprecedented rate, major concerns have been raised as to how we will provide substantial housing to meet the demand. Some believe that the answer lies in architects working towards more a collaborative approach, which incorporates mutual dependency between designers, planners, health care professionals and future building users. As we have seen, many believe that the role of the architect as part of a would be to unite design imagination with public interest to inspire visions of a better world (Dovey, 2010).

Although some claim that participation could be considered a threat to architecture, others believe that it should be embraced as an opportunity to resuscitate the profession (Jones, 2013). Furthermore, we have also seen that participation can enhance and enlarge the role of architects, rather than what may be believed that it would decrease it (Beyerle, 2013).

Through analysis of international case studies, it is clear that there is much to learn from these large-scale innovative projects. Both examples showed the success of implementing an initial framework with which the project can be structured. This framework came out of close collaboration with future users from the outset. The resultant architecture could not be fully predicted and perhaps that is the true genius of these projects. One way of thinking can materialize in many different forms and the result is a diverse and complex built environment that reflects the distinct nature of who we are.

Furthermore, valuing consultation and participation of citizens resulted in highly liveable, sustainable and inclusive communities that foster better health and well-being. Proving that meaningful participation requires going beyond consultation to enabling citizens to become an integral part of the decision-making process.

The evidence presented is weighted for participation of people and it is therefore essential that this becomes the 'norm' rather than just for exceptional circumstances. It is also pertinent that there is no degree of lip service and that transparency surrounds the projects. Of course we now

realise that this would have to involve policy makers, other professionals as well as designers. In order to make this work on large-scale projects, it is essential that we evaluate and learn from past mistakes and experiences.

The overriding purpose of this thesis has been to encourage the reader to understand the benefits and outcomes of many professions collaborating with citizens in the design of future homes. If nothing else it is hoped that the points raised will encourage debate around the topic of who should be making the decisions on design of our built environment. There is arguably a lot of work still to be done on this subject, however those who currently have the ability to respond also have the responsibility to do so.

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