Futuring Design: Transforming Interior Design using Design Futures Theory

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1 Synopsis

Design studies traditionally examine the process of design in the context of how that process contributes to the creation of the designed object, system or structure. That is, a successful design process is measured by the capacity and efficiency with which it results in an object, space or system. In many cases, there is no measure of how well-designed these outputs are, at most; such measures will generally be limited to cost, efficacy and user satisfaction. Further, the notion of what constitutes well-designed is arbitrary and inconsistent across disciplines. The theory of Design Futures highlights the crucial implications of design on society and the environment in which the designed object operates over its lifetime. This thesis deals with the challenge of finding ways to incorporate the principles of Design Futures to improve design practice so that it incorporates both the lessons learned from historical enquiry and the experience of design practitioners who have attempted to incorporate these historical lessons. Inevitably, any attempt to improve design practice must engage with education practice to ensure that designers acquire the principles and methods of design which they apply in their professional practice.

Human-centred design focuses on the impact of the design on the user as they make use of the space, dwelling or object that has been designed and Design Thinking facilitates this by framing the problem as broadly and contextually as possible and iteratively reviewing the design approach with the user. Design Futures is one of a number of theories, or movements, that extends the context to the long term social, environmental and cultural implications of the design. This research builds on that work to discover a framework that connects theory to practice and how that framework might be used in educating designers to embed that theory into their practice thereby assisting them to take responsibility for the long term cultural, social and environmental implications of their design.

This research sets out to link the theory and the practice by creating a Design Futures framework and integrating it into the curriculum of an Interior Design course. This challenges the superficial view of Interior Design with a view to teaching a socially responsible design practice that takes a long-term view. Such a curriculum is built on the theoretical underpinnings of Design Futures and is informed by the key principle that a designer is responsible for the social, cultural and environmental impact of their design. The term sustainability is used in this research to include these impacts over the long-term.

This review unfolds in a narrative that moves from the literature review of Interior Design theory and practice in chapter one to an analysis of Urban Planning and its social impacts in chapter
two. This second phase combines the literature review with interviews to explore the mechanics of change through an examination of the theory and practice of Urban Planning. The chapter on Authenticity extracts and examines a framework based on the variables of success developed by Price Waterhouse Coopers and summarised by the Greater Namoi Chamber of Commerce, to determine criteria for urban planners to measure the “Success of the City.”

Interviews were carried out with the founder and residents of Common Ground and with the urban planners commenting on authenticity. The practitioners actively engaged in the research as they commented on the value of authenticity as a framework for measuring the impact of gentrification as well as on the authenticity of their practice.

Given the apparent power of a framework to record and collate quantitative action research, these frameworks are then examined and compared with the Authenticity framework, to create the proposed Design Futures framework. This framework is then tested against Action Research previously undertaken by the author to explore its aptness for measuring Design Thinking and ways in which it might be employed pedagogically.

There are two separate sets of Action Research used to retrospectively review the Design Futures framework. Firstly, the author and colleagues undertook major external projects applying Design Futures theory to refine, develop and promote it. In addition, the students engaged in delivering design projects to real-world clients by applying Design Futures methodology and so were actively engaged in developing and testing the concepts that were later incorporated as the components of the Design Futures framework developed in this thesis.

By working with the students to refine and test the application of Design Futures theory, the research actively engages the students as participants in the research that they are applying. By developing the framework and the Action Research independently but from the same underpinning theory, it is possible that built in assumptions have been reinforced rather than exposed. Methods for overcoming this weakness are addressed in the conclusion.
Acknowledgements
Statement of original Authorship

This is to certify that to the best of my knowledge; the content of this thesis is my own work. This thesis has not been submitted for any degree or other purposes. I certify that the intellectual content of this thesis is the product of my own work and that all the assistance received in preparing this thesis and sources have been acknowledged.

Acknowledgement of Papers included

This thesis contains material published previously in whole or in parts. I am the author on publications listed below:

Chapter 1


Chapter 2


Chapter 3


Perolini P.S. (2017). Is Co-operative Housing a Creative Solution for Australia’s Housing
Affordability Crisis?. AMPS Conference 10, Architecture, Media, Politics, Society (AMPS).


Mulga Lands Art Gallery. Charleville, QLD.

4.5 Case Studies

This chapter section includes some parts of a published co-authored published paper. The bibliographic details of the co-authored paper, including all authors, are:


My contribution to the paper involved writing the case studies 4.5.4 The Charleville Project.

4.5.1 contains parts of the published paper authored by others. All other case studies by the author have not been published previously.

In addition to the statements above, in cases where I am not the corresponding author of a published item, permission to include the published material has been granted by the corresponding author.

Firstly, I would like to express my sincere gratitude to Prof. Anthony Fry for the guidance and support of my doctoral study and related research, for his patience, motivation, and immense knowledge. His guidance helped me formulate my early direction, study and thoughts during the first three years of my candidature. Although the direction has changed significantly since then, the foundation of Design Futures theory remains the central focus of my thesis.

I also would like to thank my colleagues past and present for their insight, support and guidance working on joint projects throughout my candidature. Some selected joint projects were included in my thesis to illustrate how my framework can be applied.

I want to thank the rest of my thesis committee and my recently appointed supervisory team, Dr. Jason Nelson, and Dr. David Sargent for their insightful final comments and encouragement.

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2 INTRODUCTION

This thesis has been produced as part of the requirements for confirmation of candidature of PhD at Griffith University.

Interior Design exists as a discipline attached to existing models of development. As such, it is linked to the problem of uncontrolled consumption, resource depletion and waste (Whiteley, 1998, p. 129). Design Futures theory asserts that we design the future and, so, to create the future we want, we need to influence the future of design. To do that, we need to understand the emergence and development of design practice so we can influence its future development.

This thesis specifically explores a possible framework that can be used to examine design practice to measure the long-term implications of design decisions and approaches. That premise and the framework built upon it are based on the principles of Design Futures, outlined below. This thesis is based explicitly on the literature review of urban planning and interior design theory and practice seen through a Design Futures lens. The thesis, and the framework, are, therefore focused on the design of buildings and urban planning. Future work may test its broader application.

2.1 Overview

It is a fundamental premise of Design Futures that design cannot be simply reduced to a practice and its outputs but also needs to account for the consequences of those outputs. This inquiry into the transformation of interior design practice, then, extends its focus beyond the practice of Interior Design and its outcomes, to include the effects and long-term implications of those outcomes. Our interest in the Arcades of Paris, for example, is not restricted to their appearance, or the experience of the shopper in visiting them, but the impact this experience had on commerce, the role of the feminine in society more broadly, and the design of downtown precincts and the twentieth century shopping mall. That in turn has implications for the sustainability of our current commercial, manufacturing and infrastructure arrangements. Ultimately, it is the intention of this research to discover a framework that connects theories of design and design-thinking to practice in such a way as to enable designers to take those long-term responsibilities. This involves a detailed examination of how theories of design connect to the long-term implications of practice, and to the practice itself. Those long-term implications are the essence of sustainability. It is the premise of Design Futures, that designers must take responsibility for the long-term implications of their design because that is the only way that we can guarantee a sustainable future. As such this exercise requires an examination of existing frameworks and approaches that either guide design practice or set out to measure its impacts.
The first chapter of this thesis examines the influence of design on the user of that design and on society more broadly. This literature review sets out the reasons why it is important to examine the long-term implications of design and so concentrates on the mechanisms by which design extends its influence into these broader spheres. It examines the Paris Arcades as a case study and Interiority as a concept to establish the connection between the work of the designer and the impact of that design on the people who experience it, their experience of themselves and the relationships they form with the world around them. This section is almost entirely based on the literature review.

The second chapter extends that approach to the city, building on the vast body of academic work and contemporary experience to examine the responsibility of designers in creating the experiences of their clients. This section of the literature review examines some frameworks used by urban planning practitioners to measure the success of urban planning outcomes. It then goes on to retrospectively consider the relevance of that framework through an analysis of how the elements of the frameworks might apply to the experience of dwellers and urban planners interviewed as part of this research.

The third chapter presents findings from a series of projects delivered as Action Research based on the responses to external design challenges, deliberately undertaken to test the response of clients and external bodies to the Design Futures approach. It then examines the application and relevance of such a framework in the teaching of design practice. It employs a series of case studies based on the application of Design Futures principles to real-world projects for clients, allowing students to test the Design Futures approach in the marketplace. Those projects implicitly addressed specific components of the framework, although it had not been made explicit when those projects were briefed. This provides a further opportunity to review the proposed framework by examining it in a range of contexts each relevant to specific components of the framework.

Finally, the conclusion presents a summary of the framework developed throughout the thesis with observations on what has been learned about the implementation of that framework and a forward plan for further research.

2.2 Background to the study

The drive for embarking on this study arose from dissatisfaction with the wasteful activities of my own interior design practice and frustration with the lack of scholarly literature about interior design, the vast majority of which only superficially deals with the subject.
Furthermore, a realisation that interior design, present everywhere and interwoven with the history of numerous environments over time, must be recognised as more than a source of spectacle and public and private entertainment. While this research is interested in re-directing interior design specifically, it cannot do this without looking more broadly at design and design culture generally.

Interior design has long been criticised by theorists and reflective practitioners for not being a true profession both because of the perception that it lacks a body of theory and because of its subordinate relation to architecture. Although an academically independent discipline with its educational standards, curricula, professional organisations and legal recognition, the main academic foci of interior design are practice-driven, and its theoretical foundations grounded in technical and pragmatic knowledge. Despite this current standing, humanity has been mindful of rooms and furniture and curious about their influences on our actions, our thoughts and our emotions for all recorded history and almost certainly earlier. Yet the theory and practice of interior design still mostly fails to make connections between what it brings into existence and the consequences of that creation.

Historically, interior design is mostly the output of individuals who emphasise design style over social or environmental concerns.

Furthermore, designers are often reliant on a bias towards the spectacular to make a name for themselves in the industry and are predominantly interested in the production of marketable commodities to satisfy the wants and needs of consumers. Sadly, the sign value (fashion) of an interior is obsolete long before the materiality of that interior completely deteriorates; Designers have become complicit in driving economic growth by feeding and accelerating the insatiable appetite of consumerism for style.

These wasteful practices in interior design as directed by desire and interiority result in enormous amounts of materials from unfashionable interiors arriving in landfill long before a fit-out is at the end of its life or needs replacement. This constant demand for new materials and products is escalating unnecessary production and accelerating the depletion of non-renewable resources. Despite an increased awareness of these negative consequences, so called consumer-led and market-led design seems widely accepted as the imperative driving and directing design business and practice.

We live in a value system of marketing-led design encouraged by a consumerist society which has its roots in the great depression of the 1930s when consumerism was directly accelerated by
the combination of the ‘New Deal’ program generating employment, and design led desire increasing manufacturing demand and the introduction of hire purchase. Together these factors created a ‘consumer-led economic recovery’ and an economic model adopted by capitalism at large that still rules (Lefebvre and Donald, 1991). Over time, design continued and strengthened that economic function and today it is widely accepted that (as it is socially, politically and economically constructed) it cannot be meaningfully considered outside this context. This design-related dynamic has put interior design in a powerful economic position as a driver of consumption, consumer desires, taste, values and habits. In so doing it established interior design as a deep-seated symptom of unsustainability. One of the most challenging problems facing the re-direction of interior design is thus challenging the bond between consumption and perceived success of the design. Explicitly establishing sustainability as a criterion for success in design is one way to address this challenge.

As a discipline, interior design emerged in the twentieth century out of architecture’s failure to adequately address the inside of the spaces it created. While both disciplines engage in wasteful practices, interior design became the dominant domain of excess. On the one hand, it promoted itself as responsible for enhancing lifestyles and workplaces, on the other hand, it failed to engage in and address critical social and environmental issues adequately.

The overarching context framing this project is to place those critical issues at the core of design practice. We live on a finite planet with finite resources, but we ignore the signs warning us that we are approaching the limits to growth. Instead, we have introduced a shallow and piecemeal approach of technology-based ‘ecological solutions’ to address the problem. What this approach does is to put us in a frame of contentment that delivers the illusion that all will be fine. At best, we engage in “sustainable” practices which only maintain the status quo and fail to make any real impact upon serious and fundamental problems (Edwards, 2011, p. 224).

Scientific predictions tell an alarming story. Sea level rises, global temperature rise, warming oceans, shrinking ice sheets, declining arctic sea, glacial retreat, extreme events and ocean acidification – these are all symptoms of manmade global warming of which design and designing is a key contributor. Practically everything is designed, from cities to rural farms, from infrastructures to our healthcare, from our information systems to our political systems, from drugs to the welfare system. The combination of increasing global demand on finite resources together with an ever-growing global population, and continually worsening environmental problems means humanity is travelling toward a huge disaster unless we and our practices change. As the entire output of human society is the result of design, design practitioners have a fundamental responsibility to address these issues. So, because many of the problems we face
were created by design they likewise can be solved by design. This requires, though, a fundamental shift in design thinking.

Despite the fact that an increased awareness by some designers of the potential design could offer in finding solutions to some of the global issues, key client stakeholders still mostly see design as a tool for innovation and economic development. It follows that without profound cultural shifts and social changes, any change to redirect design will falter.

This project does not assume that it can solve the problems of the scale identified, but it asserts that these solutions require and begin with a change to the practice of interior design in particular and design in general. While we cannot definitively determine how the shape of a good future or a better society it is certain that design ought to, and can, be one of the professions at the forefront of making the world a better place for all (Whiteley, 1998, p. 132). An ongoing discussion in interior design education and practice is critical to advance these aims. Current forms of design ethics adopted and discussed by the design professions are totally inadequate. Whilst academic literature discusses ethical principles and duties in detail, it does not go nearly far enough and has as its primary focus on professional competence and integrity within the design profession. The Design Institute of Australia (DIA) official professional code of ethics, for example, covers five clauses: the responsibility to the community, responsibility to the client, responsibility to other designers, remuneration and publicity (Design, 2013). Each clause deals primarily with the operation of the profession rather than the implications of its work.

Without designers taking far more responsibility for their role in society, they will remain part of the problem of the unsustainable. As Nigel Whitely explains, the focus needs to shift from ‘the standard of living’ to ‘the quality of life’ (Whiteley, 1998, p. 2).

Eduardo Côrte-Real, in his book review of “Ethics? Design?” by Clive Dilnot, states that: ‘when design became so powerful during the last 100 years, it stopped being innocent’ (Dilnot, Friedman et al., 2005). What is needed is the recognition that designed things can direct, and are directed by, an ethics that is materialised. It is therefore not only individuals who need to act ethically but equally ethics needs to be transferred and embodied in the designed objects designers design – this as things go on designing and acting in the world (Dilnot, Friedman et al., 2005). Author, educator and design theorist Tony Fry refers to changing the practice of design as futuring. Design, as Fry puts it, can be a key driver of change. “For this to take place, the very nature of design and designing needs to be transformed in regard to how designers think and the character and consequences of what is brought into being by design. The key to the investigation of this process of change is the remaking of design practice, for this is what designs the
designers designing” (Fry, 2009, p. 50).

2.3 Theoretical underpinnings

The purpose of creating a Design Futures framework and integrating it into the curriculum of an Interior Design course, is to challenge that superficial view of Interior Design and teach a socially responsible design practice that takes a long-term view. Such a curriculum is built on the theoretical underpinnings of Design Futures and is informed by the key principle that a designer is responsible for the social, cultural and environmental impact of their design. This is complicated because those impacts emerge from a combination of the decisions made directly by the designer and the experience and actions of the dweller. The indirect relationship of the dweller’s interiority and the design practice means that some long-term implications are not under the complete control of the designer. That does not absolve the designer of taking responsibility for their contribution to that interiority and its long-term impact. As Stefano Andreani argues in Reframing Technologically Enhanced Urban Scenarios “Although these speculative design projects are reminders of the general paradox that we can’t control the future, they also highlight the fact that we have the ability to create the proper conditions for desired scenarios to occur” (Andreani, Kalchschmidt et al., 2019).

2.3.1 Design Futures Theory

There are different definitions of Design Futures. For my research, Design Futures encompasses the recognition that the ecological catastrophe we all face has been in large part caused by design, and so it is equally valid that it can only be solved by design, through the transformation of the content and practice (Fry and Ebscohost, 2011). Design Futures theory offers a mechanism that demands a radical shift in the way designers think and design. This thesis is developing the state of design futures as a general theory but, additionally, design futures theory will also be developed in specific areas in relation to interior design as outlined above. As discussed, the essence of this project is to develop a critique of the history and practice of interior design. This is necessary, not only in regard to its material impacts but to underpin and expose the industry’s negative practices by linking them to the historical emergence of desires for goods and lifestyles. These desires can now be seen as fundamental to the culture and conditioning of unsustainability encouraged by the consumerism that drives capitalist industrial society.

While design literature has broadened its scope and is now beginning to make connections to critical social, cultural and environmental issues, it continues to display a limited understanding of the impacts of design practice on ecology and society. While new practices like ‘green design’ increasingly emerged during the 90s and have today become routine of every interior design practice, an effective effort towards change remains fragmented. Tony Fry exposes these
limitations in his work and systematically presents ideas and methods for design as an expanded ethical and professional practice (Fry, 2009). He argues that responding to ethical, political, social and ecological concerns now requires a new type of practice which recognises design’s importance in overcoming a world made unsustainable. Fry names this new practice a re-directive practice. But for this to happen he continues, “the very foundation of design and designing has to be transformed in terms of how designers think about design and designing and the character and the consequences on what is brought into being by design” (Fry, 2009).

Similarly, Bruce Mau (Mau and Leonard, 2004) recognises that we live in an unsustainable world made by design. In his book Massive Change, he recognises the newly emerging area of “responsible” design. As a practitioner, he can combine theory with practice and show designs that make us think about their social and environmental implications.

While both theories have been welcomed by many forward-thinking design practitioners from all fields, they have equally attracted criticism. Fry’s claims on the power design potentially have as a world shaper has had mixed reactions from the design industry. Mohsen is among those who have suggested that his statement is built on a series of unsupportable assumptions (Shahmanesh, 2011). Similarly, Bruce Mau’s book Massive Change has been criticised of making too many assumptions. Richard Vaughan (Vaughan, 2005) questions the promise Mau makes that all the world’s nastiest problems – hunger, poverty, violence, political economy – are simply design tasks waiting to be solved. In his book, Mau discusses how new inventions and technologies can assist in global communication to advance an interconnected society which can, in turn, assist in confronting and solving global and local problems. In Vaughan’s opinion, the book lacks on two levels. Firstly, it needs a good counterargument and secondly, it operates under the assumption that interconnectedness will automatically make people behave in the right ways. In addition, I have had numerous classroom discussions with undergraduate design students on the theories proposed by Fry, Mau and others. The most common criticism from undergraduate design students is that Both Fry and Mau offer a lot of big ideas but no suggestion on how to make them real and no framework that compels a designer to act on these ideas.

2.3.2 Theories of design practice

There are several theories exploring how designers understand human interpretations of the environment (and built environments). Semiotic, phenomenological and narrative theories examined the use of language, human interaction and constructed meaning relevant to understanding human interpretations of environments (Ganoe, 1999, p. 3). Lefebvre discusses in The Production of Space (Lefebvre and Donald, 1991) the importance of recognising that built environments are analysed as cultural constructions that can be read and interpreted as having different meanings. Similar to the way that social space is connected to lived action, semiotics is
based on symbolic meanings communicated between cultures and individuals, whereas phenomenology emphasises on individuals’ experiences, feelings and thought processes. Each of these theories contributes a different dimension to a broad understanding of the human interpretation of environments, including built environments and spaces (Ganoe, 1999, p. 4). suggests that narratives provide a complete structure which combines phenomenology and semiotics.

Latour explains that the word ‘design’ for instance, has a much more restricted meaning in French than it has in English or Scandinavian (Latour, 2008, p. 4). To the French, who imported the word from English, it meant no more than ‘relooking’. A good translation does unfortunately not exist in English. As Latour explains, to relook means to give a new and better look to something – a chair, a car, an interior. “In fact, if left without ‘design’ this something would remain too barren, too severe or too clumsy.” Design in its limited sense occurred by adding a veneer of form to the creations of more serious professionals like engineers, scientists or accountants. This view of design persists in some quarters today but is offset by the opposite view, expressed by Bruce Mau in Massive Change that global problems, such as hunger, are simply design problems looking for a solution. Certainly, design has extended over time from the detail of the form of individual objects to encompass cities, nations, and cultures; today the term is undistinguished from the very substance of production (Latour, 2008, p. 5). Latour asserts that ‘to design could mean equally to plan, calculate, arrange, pack, define, project, write, code, and dispose’. Design applies to ever-larger assemblages of production (Latour, 2008, p. 2).

A contemporary German thinker, Peter Sloterdijk, shares similar ideas on the philosophy of design. Like Latour, Sloterdijk has published numerous works on cultural criticism, the philosophy of culture and religion, the theory of art, psychology and economics. In his latest work Sphere’s, he formulates the fundamental question of philosophy – the question of ‘being’. His work differs from the work of Heidegger. While Heidegger poses the question of ‘being’ in relation to time, Sloterdijk’s interest in ‘being’ is in relation to space. In Sphere’s, the author attempts to answer questions such as, how human beings manage to master interactions with each other in conjunction with an overwhelming abundance of non-human and co-human factors. ‘One is never alone only with oneself, but also with other people, with things and circumstances thus beyond oneself and in an environment. Space is thus no longer an empty abstraction, but a form of human life in the sense of a space-shaping, space-creating activity’ (Sloterdijk, 2004).

Interiority is linked to feminine beings, and the stereotype view of interior design is that of a feminised activity. But why are females more drawn to this profession? Females have a deep desire for connectedness and inclusion which is achieved by the recognition of an underlying
connectedness to others, the objects of knowledge and to the world and sensitivity to the connectedness of the inner mind (Havenhand, 2004). Female self-identity is developed through identification connections to everyday experiences. Women have a tendency to overlook dichotomies and recognise connections rather than differences. Design processes undertaken in this feminist perspective are likely to blur role distinctions between designer and client and designer and user. This perspective promotes closer spatial or visual connections between spaces, interprets diverse kinds of spaces and combines both subjective and objective information.

Terrence Love lists a range of reasons for the lack of a unified body of knowledge and theory about designing (Love, 2000, p. 2).

- theoretical conflicts between researchers, especially those working in different domains;
- difficulties in transparently validating theories against their ontological, epistemological and theoretical contexts;
- a lack of clarity about the scope, bounds and foci of fields of research and theory-making about designing and designs;
- significant hurdles for early career/post-graduate researchers in establishing satisfactory reviews of literature, identifying sound epistemological foundations for their research, and building theory that is useable across a wide spread of disciplines associated with designing and designs.

All knowledge is continually relevant for interior design practice and the knowledge in relation to design is not domain specific. Most knowledge comes from outside the design profession. Consequently, a designer must engage in all fields of knowledge.
Given the breadth of possible areas for investigation, this research has been explicitly limited to the examination of why designers should take responsibility for the long-term implications of their design and what elements of design practice might support that effort.

2.3.3 Theories of design responsibility

The history of Human-Centred Design, Design Thinking and User-Centred Design has a range of starting points and objectives. Those disciplines focused on designing software interface are generally referred to as user-centred design and focus on the user’s interaction with the design. Human-centred design focuses on the impact of the design on the user as they make use of the space, dwelling or object that has been designed and Design Thinking facilitates this by framing the problem as broadly and contextually as possible and iteratively reviewing the design approach with the user. Design Futures is one of a number of theories, or movements, that extends the context to the long term social, environmental and cultural implications of the design. This research builds on that work to discover a framework that connects theory to practice and how that framework might be used in educating designers to embed that theory into their practice thereby assisting them to take responsibility for the long term cultural, social and environmental implications of their design. The application of human-centred design to encourage technical practitioners to take responsibility for the social and cultural implications of their work is well established.
“In an attempt to address the culture of disengagement, I propose a framework for humanising engineering education based on two interrelated elements: 1) helping students grow and develop in multiple dimensions; and 2) reconciling the social and technical nature inherent in engineering and engineering education. To support this framework, I discuss a context (i.e., Human-Centred Design), a theoretical framework (i.e., Transformative/Emancipatory Learning), and a methodology (i.e., Action Research) for transforming teaching and learning that can humanise engineering education according to the proposed framework” (Joslyn, 2017).

2.3.4 Theories from outside design

The place of design in world culture and the response of designers to a changing world has been discussed by practitioners in disciplines outside design for some decades. With cultural studies and sociology increasingly turning towards the visual, many exciting and relevant readings coming from those disciplines need to be considered. A number of works recognise that the world is not just given to us in its current condition but, in fact, is made that way by people (Kolko, 2011).

Design is a significant part of that process of making the world in the condition that is given to us. Those disciplines equally acknowledge that design can be characterised as a reactive rather than a proactive discipline, which denies designers the agency to positively participate in the world making that determines how we live and how we are. Much of the literature points out that the activity of design is embedded in a much larger web of discourse. (Papanek and Fuller, 1972, Buchanan and Margolin, 1995, Whiteley, 1998, Julier, 2013). Not only does the literature agree that we need to break the boundaries between the different design discourses in order to find solutions for a new form of problem-solving, some even suggests that design as a potential solution to future problems may, in fact, be left behind if the current design culture can’t be broken (Kolko, 2011).

The beginning of a design research culture in the 1960s has divided the study about the role of design in society into two areas. One focuses on the making of a product while the other is directed at the history of the making and using of objects. The second focuses more on the philosophical, anthropocentric, cultural, and social implications of designed objects and their consequences. As Margolin explains, the first stage of design studies focused on artefacts and objects made by designers. Margolin notes that “Writers such as Adolf Loos, Walter Gropius and Laszlo Moholy-Nagy explored the formal qualities of products and the reaction against such qualities” (Buchanan, Doordan et al., 2010, p. 1). An example is Gropius’ writings on modern German architecture from 1910 to 1928. The next phase of design studies in the 1980s and early 90’s shifted the attention toward the psychological, social and cultural context of products and of
the discipline of design itself.

A need to move away from art history to a historical perspective in design education was recognised at the same time; rendering the old art history model inadequate for design schools. Consequently, more critical literature on design studies has become available. These kinds of literature suggest that design reflects the growing recognition that the design of the everyday world deserves attention not only as a professional practice but as a subject of social, cultural, and philosophic investigation (Buchanan and Margolin, 1995).

In *Discovering Design: Exploration in Design Studies*, Buchanan and Margolin elaborate on their position that design can only achieve well-needed recognition if we stop educating designers in their specialised fields. The old argument that a narrow focus on discipline can provide for better design outcomes can, according to Buchanan and Margolin only ever be achieved if three positions are always present.

First, the narrowly trained practitioner must always work together with a more broadly trained practitioner to ensure a more holistic approach.

Second, areas of expertise and specialisation must be a perfect fit to eliminate any gaps.

Lastly, both the general and the specialised practitioner must believe in a partnership to deliver to a common good (Buchanan and Margolin, 1995, p. 5).

While the literature agrees that a multidisciplinary approach (including the humanities and social sciences) needs to be central to design, such notions remain considerably less developed within the broader field of interior design, where a narrow disciplinary approach is still the dominant practice model of today (Marinic, 2012, p. 105).

In his book *The Predicament of Culture*, James Clifford (Clifford, 1988) examines the lost authenticity of modernity, modernity dominated by western thought and practices. As a cultural anthropologist, Clifford is particularly interested in making space for cultural futures by recognising emergent historical influences from minority cultures. He is critical of the dominant colonialist opinion representing the rich cultural contribution of native cultures inadequate and in his works has examined how historical, cultures change when modernity challenges tradition. His work has been influential in shifting perspectives on cultural representation and the need to retelling historical cultural occurrences in different ways. This thesis is particularly interested in Clifford’s allegations to the power modernity has on challenging cultures and the power and consequences this brings to established systems. In addition, Roy Rappaport, an ecological
anthropologist, sees culture as the function of an ecosystem. He thought that it was the human's responsibility not only to think of the world but to think on behalf of the world. He felt that anthropology was uniquely qualified and positioned as a discipline to address disorders or inversions that threaten to destroy the world (Hoey and Fricke, 2006).

Connections can here be made to Heideggerian thought on 'care'. For Martin Heidegger (Heidegger, 1996), care was the fundamental structure that underlies each and every particular human existence. Heidegger’s *Being and Time*, his major work, is a key text in twentieth-century philosophy is influenced by Aristotle’s work and of interest to many scholars because of his unique understanding of phenomenological philosophy. This thesis is specifically interested in his idea of ‘care’, a term used by Heidegger for the concern and caring about the self and its existence. It centres on the idea that the individual human being needs to, in the first instance, care for the physical self, which then also extends to caring for the emotional self. According to Heidegger, only when human beings understand this “taking care of one’s self” can they instil that same care on their actions. This notion of ‘self-care’ frames and underpins the relationship between designer and dweller by facilitating the dweller’s capacity to engage in that self-care. Thus, the long-term impacts of design are shaped and influenced by this impact on the dweller’s capacity and inspiration to develop and grow.

2.4 Methodology

The research will adopt a qualitative research approach as a primary information collection method. The methodology used is theoretically based research and as such will heavily draw on extensive literature research to analyse and synthesise existing theories, structures, debates and propositions as the primary source of data collection for the case studies and identifying possible elements of a Design Futures framework.

Also, the thesis will evaluate the researcher’s own experiences, both in interior design practice and education as Action Research carried out with students responding to real-world briefs and applying Design Futures theory. Furthermore, the study will include observations and discussions held with department colleagues, interior design practitioners and members of the design community. Some case studies observing phenomenon will be considered and discussed.

The theoretical research will be complemented and supplemented with current scholarly research from interior design practitioners and academics. Despite a lack of credible interior design books, eight journals have been identified to provide the basis of relevant and current peer-reviewed articles. Publications from both academics and practitioners alike from Space and Culture, Design Issues, Design Journal, Design Studies, Journal of Interior Design, Material Culture
Review, Media, Culture and Society and Journal of Design History will provide a more contemporary perspective on interior design issues concerning the research topic.

2.4.1 Literature review

The literature review explores the theoretical underpinnings of Design Futures theory, the mechanisms whereby design creates long term impacts and some emerging frameworks used to guide and manage design practice to ensure beneficial outcomes.

The literature review analyses three layers of theory that underpin the Design Futures framework that emerges from this research.

The foundation layer is the theoretical underpinnings of Design Futures and includes Lefebvre’s theory of space; his notion of the right to the city; Heidegger’s theories of home, soul and self-care; and Jem Blendell’s Deep Adaptation. Collectively, these theories justify the premise that designers must take responsibility for the world they are creating.

The connecting layer researches the mechanics by which design practice changes and influences the world, and the literature review is complemented by interviews exploring those impacts. The literature on Interiority and Authenticity form the basis of this section and is connected to the lived experience of dwellers in some of the spaces examined in case studies carried out by the author.

The Design Futures framework emerging from this research is formed from an analysis of existing frameworks and approaches, currently used to embed design thinking and sustainability into design practice. These are primarily the frameworks of Buhl, Nightingale and PWC’s Successful Cities matrix which are examined in relation to each other and against Design Futures theory.

The theoretical research is thus complemented and supplemented with current scholarly research from interior design practitioners and academics. Despite a lack of credible interior design books, eight journals have been identified to provide the basis of relevant and current peer-reviewed articles. Publications from both academics and practitioners alike from Space and Culture, Design Issues, Design Journal, Design Studies, Journal of Interior Design, Material Culture Review, Media, Culture and Society and Journal of Design History provide a more contemporary perspective on interior design issues in relation to the research topic.

2.4.2 Interviews and Action Research

This review unfolds in a narrative that moves from literature review of Interior Design theory and
practice in chapter one, to an analysis of Urban Planning and its social impacts in chapter two. This second phase combines the literature review with interviews to explore the mechanics of change through an examination of the theory and practice of Urban Planning. The paper on authenticity extracts and examines a framework based on the variables of success developed by Price Waterhouse Coopers and summarised by the Greater Namoi Chamber of Commerce, to determine criteria for urban planners to measure the “Success of the City.”

Interviews were carried out with the founder and residents of Common Ground and with the urban planners commenting on authenticity. The practitioners actively engaged in the research as they commented on the value of authenticity as a framework for measuring the impact of gentrification as well as on the authenticity of their practice.

Other frameworks are then examined, to create the proposed Design Futures framework which is then tested against Action Research undertaken by the author to test the framework in practice and explore ways in which it might be employed pedagogically.

There are two separate sets of Action Research used to refine and test the Design Futures framework. Firstly, the author and colleagues undertook major external projects applying Design Futures theory to refine, develop and promote it. In addition, the students engaged in delivering design projects to real-world clients by applying Design Futures methodology and so were actively engaged in developing and testing the concepts that were retrospectively extracted as the components of the Design Futures framework developed in this thesis.

By working with the students to refine and test the application of Design Futures theory, the research actively engages the students as participants in the research that they are applying.

Figure 2 Action Research
This approach facilitates the retrospective analysis of qualitative data to refine and test the framework that emerged from the literature review. The retrospective approach was modelled on the well-established, quantitative method of collecting data from a range of studies and retrospectively analysing it against new criteria. In these quantitative examples, the existing data is simply compared to the criteria in the same way that newly identified data would be.

An example of such a retrospective qualitative analysis is Heather Hewson’s work on bereavement counselling for the disabled (Hewson, 2004).

In this research, the data from the interviews and active research is analysed against a set of criteria that has been extracted from the literature review. Thus, the framework emerging from the literature review is retrospectively extracted from and refined using the data collected through the interviews and the action research.

2.5 Assumptions and limitations

The primary assumption at the heart of this research is that professional practice should be responsible for the harm or good that it does in the broader world. The literature review examines the work of Lefebvre, Heidegger and many others to justify that claim and define the relationship between creative activities and their social impacts. It also examines the mechanisms by which creative practice influences culture through authenticity and interiority.

This is by no means an exhaustive study of the relationship between creative practice and social impact, but it is carried out to the extent required to justify the argument that practitioners have a responsibility for the outcome of their work.

Similarly, this research builds on the Design Futures work of Tony Fry and the much broader work of Design Thinking, Human-Centred Design and User-Centred Design. Again, these theories and practices are examined sufficiently profoundly to ensure that the current research is carried out on the solid theoretical ground and builds on the existing work and so, complements and extends it.

This work also assumes the relationship between human-industrial activity and climate chaos and the need to radically change our commercial and industrial activity to avert disaster. That research is referred to in those sections that examine the justification for building the framework and prioritising environmental sustainability as a criterion, but it is not examined or questioned.

The Action Research carried out to develop and teach Design Futures took place in parallel with the literature review and, so predated the emergence of the Design Futures framework. This
means that the framework has been tested retrospectively against the research that is written up here. For the sake of transparency, the Action Research is presented as it was originally written up by the author, students or colleagues and the retrospective application of the framework is added as an additional section to each component of the research. It is possible that the similarly in the assumptions underpinning the Action Research and the development of the framework reinforce expectations and biases. Future research should use the framework in the planning stage of projects and test the outcomes against client and ‘real world’ expectations of third parties. That would remove this possible ‘echo chamber’ effect and strengthen the case that the framework is useful in ensuring that designers take responsibility for long term outcomes of their design.

Similarly, specific components of Design Thinking practice have emerged as being assumed to influence the responsibility of the designer. For example, it is assumed that transparency in the design process, places the user at the heart of the design and so improves social justice outcomes. (Nightingale, 2019) Additional research is required to examine the relationship between those aspects of practice and the outcome and long-term implications of that practice. Initial research has been carried out on Collaborative Practice as one such element in the Virtual Studio work carried out in 2019, and the results of that research indicate the gap between theory and practice and the scale and scope of the research required to complete that project. Similar gaps may well exist in the transparency, open and iterative nature of the practice.

Further testing needs to be carried out by explicitly applying the framework to the curriculum and design practice from conception and briefing through to completion. That is discussed in more detail in the conclusion.
CHAPTER 1 – THE POWER OF DESIGN

How did interior design acquire the power to change lives and environments?

This section examines three bodies of work to establish the relationship between the vision of the designer and the long-term implications of their design for the people who experience it, and, in turn, the world experienced and shaped by those people.

The first is a historical inquiry into the Arcades project by Walter Benjamin in 19th century Paris. (Benjamin, 1989) The second an examination of the contemporary academic study of interiority. The third is a study by the author into the ontological role of the home and the active role of the dweller in transforming and projecting the design of the home into the culture in which the home exists. The purpose of this examination is to understand how design creates change and how design changes. The overarching conclusion from these studies is that the changing force of and for design comes from within, design is fundamentally ontological: it directly influences our state of being. It is that mechanism that requires us to capture the long-term implications of design and forms the driving force for this thesis.

The outcome of these conclusions on the overall thesis is that accepting the responsibility of the designer for the long-term implications of their design fundamentally shifts the focus from the ‘work’ (both the practice and the product) to the implications of that work.

This is to ‘make the architect live in the building’ or, as Oscar Niemeyer wrote, “I created [my architecture] with courage and idealism, but also with an awareness of the fact that what is important is life, friends, and attempting to make this unjust world a better place in which to live” (Basulto, 2012).

3.1 The Paris Arcades

The social and environmental change brought on by the industrial revolution in Paris saw the rebuilding of one of Europe's largest cities from a medieval town to a progressive modern city with a sewer system, wide boulevards and monuments. The Paris arcades became one of the distinguishing spectacle features of the city. Conceptually, their origin can be traced back to the Eastern Bazaars (Benjamin, 1999, p. 398). Their very ornate architectural style showcases early iron and glass experiments. As Paris was still without sidewalks in the early part of the nineteenth century the arcades not only provided access to the interior of a block or a shortcut between streets, they also provided shelter from rain and mud. But above all else, the arcades provided a means of organizing retail trade and displaying new luxury goods, predominantly from the textile industry, all under the one roof. As such, the arcades were the centre of luxury goods trade.
The dominant construction materials used to create these pedestrian passages or galleries were glass and iron. The arcades were typically traffic-free, open at both ends, roofed in glass and iron, linking two parallel streets with a marble floor. The main light source came from above through the glass roof structure. The arcades were lined on either side with shops and other establishments such as cafes, restaurants, theatres and storage rooms above (Leach, 1984, p. 34). The main characteristics were symmetrical exterior looking interior façade and the shops that displayed luxurious textiles, colours and new industrial goods often described by Benjamin as the 'dialectical fairy tale' of emergent capitalist material culture (Benjamin, 1999, p. 12). The glass roof created a protective barrier between the street from noise and climatic discomforts. They also created the feeling of an ideal artificial safe world. The interior images of the arcades showed a collision of styles from gothic to Persian, with Renaissance influences popping up randomly. The interior of the shops equally displayed a marriage of style; rich heavy textile curtains, cushions and full-length gold- framed mirrors, fireplace and plaster ornaments (Benjamin, 1999, p. 14). There was a mix of an existing romantic notion and the new modern industrial style. This gave a constructed sense of fakeness about the interiors and the working people inside them.

The arcades were, in many ways, domesticated public spaces. Benjamin described them as "urban galleries; as rooms and dwelling places" (Benjamin, 1999, p. 216). The exterior is only present by ones 'imagination'. Benjamin sums up the essence of the arcades in a quotation from the Illustrated Guide to Paris, a German publication of 1852:

“These arcades, a recent invention of industrial luxury, are glass-roofed, marble-panelled corridors extending through whole blocks of buildings, whose owners have joined together for such enterprises. Lining both sides of the corridors, which get their light from above, are the most elegant shops, so that the arcade is a city, a world in miniature, in which customers will find everything they need” (Benjamin, 1999, p. 218).

Paris, in his schema, was the model of the modern capitalist city and the bourgeois 'felt at home' in the arcades. The first arcade, the Passage des Panorama opened in 1800.
1800 and 1830 and some are still standing today. Described as one of the most influential architectural forms of the nineteenth century by Benjamin, they give a good insight into the emergence of modern urban public behaviours. As a new kind of public space, they offered different spatial and social possibilities as they became the places for interaction and economic activity that transformed perceptions and after that the pattern of consumption. People started buying goods not because they needed them but because they desired them and the values they represented. Locals went to the arcades to window-shop and to be seen. The arcades emerged as social attractors and gathering places of a grand scale that provided not only places of consumption but also of public spectacle that we would now call tourist attractions.

Social classes started to significantly change at the beginning of the nineteenth century. The ranks of the working class expanded (and within it a more affluent ‘labour aristocracy’) as well as a larger and proto-consumerist middle class. With many rural people moving to Paris to find work, the city quickly became overcrowded and dense. By the mid-nineteenth century, about forty-five per cent of Parisians belonging to an emergent bourgeois shared the same narrow inner-city streets with the working class (Benjamin, 1989, p. 218). The new middle class or the cosmopolitan bourgeois, a social class full of confidence and disposable income, who engaged in activities of distribution rather than production, found work in some of the growth sectors such as trade, finance and commerce. As trade in the city expanded and the nature of the urban market changed, competition amongst the middle class to sell goods intensified (Benjamin, 1999, p. 57).

At the same time, the production and distribution of goods shifted from the home to factories and many members of the new middle class became small business owners. Although the shift from home to factory-produced goods created labour opportunities, the working class was still living in poor conditions and mostly excluded from the new world of consumption offered in the arcades.
(Benjamin, 1999, p. 141). As the urban landscape changed under industrial capitalism, it equally accelerated the expansion of the spectacle of consumer culture. By providing exhilarating spaces and an endless offer of commodities, the arcades quickly turned the earlier shopping model of exchange and trade engaged in market squares into an aesthetic event of anticipated leisure and social activity. In many ways, the Paris arcades are symbols of the first modern consumerism which became more prominent towards the beginning of the twentieth century (Leslie, 2007, p. 85). With the rise of international trade and the acceleration of industrial manufacture, consumption pattern quickly changed from meeting mostly basic needs to be driven by the power of the marketplace. This new emerging consumer culture also changed how the domestic interior was created and viewed, particularly by the bourgeois class. The lavishly decorated arcades conceptualised a particular taste and consciousness of the material realities of domesticity and evoked desires that were actively developed into modern domestic realities. The arcades, with their utopian presentations of wealth and excess made an image that crept into the domestic interiors of bourgeois life. "The drawing-room became a box in the world theatre"(Benjamin, 1999, p. 83).

Living spaces became more distinguished from the workplace. For the bourgeoisie dwelling was more clearly separated from work and became a projection (and creation) of social identity. As such, the 'nature of interiority' also changed. Although the image of the home as a private and individual space, a refuge and comfort from the outside, a place of mediation between public and private space still prevailed, that notion had been challenged by a number of developments. The change in consumer behaviour triggered a change in lifestyle which altered the self-image and eventually, through general acceptance, a socially accredited stereotype of the bourgeois emerged. The interiors of this social class reflected a complex aesthetic deeply embedded in material culture. In essence, the objects they displayed were of character and identity typical of someone concerned with social expectations and status. The domestic spaces of people not only reveal how they lived but also opens inquiry of who they were, and the interiors of the time convey self-identity and social identity. Modernising the home was indivisible from keeping up with social expectations. Despite radical changes in domestic life over the past two hundred years, in a sense, the bourgeois interiors are present with us even today.

Modernising the home and keeping up with social trends and expectations ensured producers a continued demand for consumer goods, but equally, it generated a growing desire amongst consumers to express individualism (an externalisation of interiority). Similarly to the arcades, the interiors at the time expressed social cues through decorative objects and surfaces (Benjamin, 1999, p. 217). Through the acquisition of objects, the domestic interior became container-like –
this to house and exhibit the acquired collection of bought modern objects and things familiar. New materials from technologically advanced industries were softened for the newly differentiated domestic interior by the use of exotic soft luxurious materials such as drapery and upholstery (Rice, 2006, p. 18).

3.1.1 From arcades to department stores

While the arcades had prompted the rise of commodity culture as capitalism advanced, they started to become obsolete with the rise of the department stores. The enormous output of the manufacturing process of the industrial revolution had transformed the form and volume of everyday goods. The number of goods available and their affordability created the foundational condition for modern consumerism. A sales infrastructure able to deliver vast amounts of goods to 'the public' was essential, and this is exactly what the department store, in combination with the establishment of mail-order catalogues, was able to do. In the latter part of the nineteenth-century, mail-order catalogues became a dynamic form of marketing. The Sears-Roebuck and Montgomery Ward catalogues were the first to introduce the image of an individually created life-world assembled from purchased goods and in doing so they quickly established an enormous level of consumer demand and powerful global network. This was to become a fixture of the American culture as well as part of the national psyche (Ross, 1992).

The rapid growth of industrialisation saw a massive increase in department stores in all larger cities. The retail sector, with its enormous profits became the epicentres of burgeoning consumer culture, effectively transforming the landscape of commerce. The new department stores in common with the arcades were spaces of the spectacle on a large scale but increasingly were even more accessible to a growing middle class and the more affluent end of the working class.

The first department store (Le Bon Marché – which started as a small store selling dry goods) was claimed to have opened in Paris in 1838. By the mid 1850s to the end of the nineteenth-century, the number of department stores had dramatically increased and created a major revolution in consumer culture and the shopping experience, as well as changing a good deal of the nature of the domestic interior and inner life therein.
The store was the first in the 1850s to sell merchandise with low and fixed retail prices (eliminating bargaining and generating a high turnover of goods; this based on the low-unit-profit but high-volume-return model of retailing). The volume of goods sold, the speed at which they were sold, and the size of the stores differentiated department stores from the ordinary specialty shops and other dry goods stores. Customers were encouraged to enter the shop and browse and not obliged to make any purchase. Other significant changes included the introduction of the return policy – customers could exchange or return goods for other goods or get their money back. Bon Marché’s success was impressive. The store sales went from a total of a half-million francs in 1852 to five million in sales in 1860, by which time they were employing up to 4,000 staff. As a result of the rapid growth, the merchandise got diversified. Bon Marché offered anything from ladies’ dresses, shoes and underwear to children’s toys, tools and furniture. The merchandise was displayed under the same roof but in different departments. Bon Marché’s new methods of handling and presenting goods marked a real development of department stores’ business. But more than this, they also marked an expansion of images, objects and spaces offered up to desire. As such, these methods equally expanded the idealisation of interior dwelling with the interiority of inner life – life in the imagined.

The United States was the first country to follow France in establishing department stores, but similar developments were happening in Ireland and the UK. In Chicago, Marshall Field and Company opened the second largest store worldwide at the time followed by Wanamaker in Philadelphia in 1877. By 1890 a new world of retailing had been created as department stores had established a market position as universal providers.

As many small towns grew into cities, as a result of expanding population growth and industrialisation, many general stores eventually became department stores. Big cities grew at a
rapid pace. Just as industrialisation and immigration transformed cities, new technologies reshaped their built fabric. The introduction of iron, and then steel-framed buildings allowed for a higher structure with wide-open atrium – a form of construction ideal for department stores. Not only did architects make use of the new technologies to create modern constructions with heating, cooling and lighting but for the first-time architects worked with store managers to study the movement and observable behaviours of people through the store. This led to new store designs and layouts that were carefully considered to maximise product exposure to customers. In the USA in its peak times, more than 10,000 people went through the department stores in a single day. This required a whole new approach to crowd control.

The department store interiors were represented as more like the décor of a palace than a shop. Marshall and Field (completed in 1907 in Chicago) were one of the biggest and most elegant of those stores. The elaborate interior was a display of excess and opulence extending over 300,000 square metres of floor space on twelve levels. The interior featured the largest Tiffany & Co dome style ceiling constructed of mosaic glass. The expansive floor areas were covered mostly in marble and carpet; the cabinets, shelves and counters were made from oak and glass with decorative detailing. Elegant staircases and elevators connected floors and the leadlight windows were covered with velvet drapery while the seating was covered with quality upholstery (Benson, 1979, p. 205). The department store was a grand space, both on the inside and the outside. The structure and layout of the store were designed to lure people into the dream, entered via ornamental doorways and exiting window displays. Inside the goods were arranged and shaped by the store managers into micro-environments of desire. As such, they put mini utopias on sale. It appeared as if it was possible to buy a way into the future. This kind of induction was not of course just into the store itself but into consumer culture and its associated inner-life of dreams and desires, thus into a particular mode of interiority wherein the exterior and the interior were articulated in such a way as to imply lack and the lure of its fulfilment via consumption.

Towards the end of the nineteenth-century firms such as John Wanamaker, Marshall Field, Jordan Mark, Lord and Taylor and R.H. Macy spread all over the United States and offered a vast diversity of goods. Those stores were of an ever-grander scale, the largest being over forty-
two acres of floor space serving a quarter of a million customers per day. The interior design of the department stores was lavish and grandiose. As said, they were fitted out to appeal, especially to female customers. Many were compared to women’s equivalent of a men’s downtown club (Benson, 1979, p. 205). Department stores offered more than just the experiencing and purchasing of goods: Many stores featured impressive comfort and service spaces for customers like lounges and restrooms, reading rooms, writing rooms and restaurants with live music, all conveniently under the one roof. The creation of a ‘commodity’ can, therefore, be seen to have been grounded in real material practices.

One early characteristic of a department store layout was the rotunda design; followed by a gallery style construction with a great central void overlooking all floors, usually covered in a glass ceiling.

Interestingly this panoptic model of the surveillance of staff and customers has a great deal in common with the development of the system first conceived by Jeremy Bentham at the end of the eighteenth-century that Michel Foucault drew attention to in the mid-1970s in his influential book *Discipline and Punish*. The hierarchical observation and monitoring of staff and customers as yet another sign of progress of modernity and society quickly adapted to becoming a surveillance society (Foucault, 2009). The introduction of surveillance in the department store facilitated corrective measures of punishment and reward to control staff.

But while the design of the department store helped with surveillance, the interiors became more grandiose and exquisite at the same time. The lavish interior aimed to establish a new culture of buying (Benson, 1979, p. 208). Merchandise was arranged by design and displayed in a way to seduce people into purchasing and the displays were reinforced with advertising tapping into consumer’s created desires for particular products, environments, lifestyles and image maintenance. However, consumption was made more than just purchasing by offering a range of other services. These services reinforce the notion that consumption is a total lifestyle. Women, in particular, were targeted by offering beauty salons, nurseries, meeting rooms for women’s groups, repair services for shoes and jewellery and similar. These almost royal treatments eventually lead to wealthy female customers using their class prerogatives to demand unrealistic expensive and wasteful practices and eventually proved too costly. In addition, the elaborated services and displays gave the impression of unaffordable high prices, which discouraged the
working class from entering, although the prices were often within their economic means.

Worried about sustaining the high costs store managers tried and made the stores economically viable – in particular, they adopted the 'Babbage' principle (Charles Babbage, an English economist who suggested that the whole labour process could be made more economical by only hiring the minimum of skilled labour required) (Benson, 1979, p. 202).

Support sections and non-selling spaces were moved to the upper floors or out of the building to cheaper facilities away from the central business district. High costs were also reduced by applying a basic fit-out to those areas of stores not accessible to customers. Support areas were designed for performance and efficiency rather than aesthetics.

Further savings were also commonly achieved in only providing fundamental staff facilities where space was often small, overcrowded and unsanitary. Thus, the design concept driving the stores was lavish spectacle associated with sales areas, and minimum expenditure on all else within the building.

Socially, the department stores were very hierarchical. To ensure financial success, the floors were rationalised into departmental divisions, each with its floor managers or floorwalkers but held together with a tightly controlling finance and accounting sector and a general manager (floorwalkers were employees in a managerial role supervising sales personnel and assisting customers.) (Benson, 1979, p. 202). The departmental division of stores not only helped train staff to specialise in a narrower line of merchandise but also helped to control large volumes of customers more effectively. The floors were reorganised according to sales volume. Hence, the street floor, easiest accessible, became the bargain floor for sure, selling high volume items and customers were directed into the aisles showcasing the most tempting items. This organisational layout structure is still employed in department stores today.

3.1.2 A space of the feminine

When labour activity moved out of the home to shops and offices, women who usually worked alongside their husbands could afford to stay at home and shift their mode of production to childbearing, domestic duties and being a consumer (Smith, 1981, p. 37). The arcades and later the department stores allowed them to venture outside the home without male companionship safely and the increased leisure time available attracted them to places of consumption (Smith, 1981, p. 38). The new development in consumer behaviour took place at the same time as the role of women in society was changing. The male-only city enclaves of business and pleasure changed when restaurants and teahouses opened to women.
Public transport was made available and acceptable and offered women comfortable journeys into the city (Huddleston and Minaham, 2011, p. 23).

In contradiction, the activity of shopping liberated women from the home while continually drawing them back into its locus as alienated inner life. Along with this was a growth of the entry of women into the workforce. This brought working-class women into the realm of consumption via their disposable income. Likewise, it shifted the character of interiority existentially a new relation between dream and class was forged. Department store managers leveraged this on many levels. Early signs of consumerism as a leisure activity that were already evident in the early nineteenth-century – as shown the Paris arcades – had a significant influence on urban lifestyles. Women's behaviour started to change when designers and manufacturers of luxury consumer goods, fashion and cosmetics started deliberately targeting them, opening up further dimensions of interiority with internal and external expression. This is to say that whenever there is a transformation in the lifeworld of a subject, there is equally a change in the nature of (their) interiority.

By commodifying femininity alongside the commodification of the home, women were doubly manipulated, convinced by the market of the need to purchase their femininity and to exchange wages for goods (Belisle, 2006, p. 107-144). Moreover, as life changes in the way it is lived and experienced, so equally does the relationship between the interior, images, dreams and objects that form interiority.

The American economist and cultural theorist Thorsten Veblen introduced the term 'conspicuous consumption' in his 1899 book The Theory of the Leisure Class to describe behavioural characteristics of the emerging middle class in their concern to demonstrate an abundance of products as a sign of wealth and status (Heller, 1985, p. 1-56). People wanted to acquire, possess and display goods because they had been led to believe that the merchandise would make them happy and satisfy their needs. As we have seen, the strength of such desires was rooted in nineteenth-century modernity and industrial commodity culture as it changed social values and replaced them with an insatiable desire for a world of bought things – thus these external forces constructed inner and outer conditions of existence – interiority as an interplay of imagining, desiring and dwelling. Consumerism thus became a subject position and ontology. Social competition, as Veblen explains, produced negative emotions – such as fear and envy – to drive consumption and ensure that the economically created material world of expanding capitalism was sustained (Heller, 1985, p. 37).

After the massive social and economic changes that came after World War Two (especially the
arrival of a far more affluent working class and the creation of a 'youth market') department store managers recognised a change direction was needed (Benson, 1979, p. 218). The subsequent growth of suburbia, the period of the decline of the central business districts and the competition in discount retailing all made the past form of department stores obsolete. Department stores were largely replaced by chain stores.

3.1.3 Futuring the Arcade

It is clear from this study that the Arcades Project by Walter Benjamin in 19th century France continue to influence many aspects of our daily lives today. One aspect of that influence arrives through the influence that the experience of the design by the individual shapes their experience and expectations of the world. The nature and importance of this feedback emerge several times in this study, reinforcing the key principle of Design Futures that we can only take responsibility for our design decisions if we understand the future long-term implications of both our practice and our output.

Thus, we can observe historically that design decisions made in the context of French retail had a significant and ongoing impact that was delivered through shaping the experience of the people exposed to the design. What that does not reveal, though, is the mechanism by which that experience is influenced. One theoretical approach to the examination of that issue is the concept of interiority.

3.2 Interiority

Interiority acknowledges that the design of a space has greater meaning and influence than its constituent objects, surfaces and materials, so therefore an understanding of that space requires a consideration of the space as a whole in relationship with the person experiencing that space. Interiority is specifically the description of the experience of the person in the space with reference to the historical, cultural and political context involved in that relationship.

3.2.1 From interior to interiority

The historical account of the arcade and department store is just one example of a material change agent that prompted new systems, kinds of spaces and modes of subjectivity/dwelling that modernity produces and is produced by. Other change agents can be acknowledged – the novel, film, popular music, and so on. However, interior space is especially important – not least because it is where most other change agents exercise their efficacy. To this end, we now need to take our analysis a little further by bringing two perspectives on interiority into dialogue with
each other. The first perspective centres on the subject's relation to interior space as a phenomenal condition of interiority brought to, and experientially influenced in and by designed interior space. The second perspective is how the nature of the interior space is constituted as an interiority open to being phenomenologically experienced. Put at its simplest, there is what the subject's interiority brings to the interior space and what the interior space thereafter brings to the subject. Even more simply: there is a focus on interiority from the perspective of the subjectivity, and; from the perspective of the space.

Interiority, as it is intrinsic to our inner life and action in the world, has an origin in the context of our becoming human. As such, it was made present as an object of contemplation with the birth of mind as we understand it as the locus of knowledge. What this moment made clear was that our dwelling in the world was as much a dwelling in thought and language as it was in space and time (Plato's 'allegory of the cave' being an early expression of this condition). We bring things into being in language and the world. For instance, as Mark Wigley made clear, in his exploration of Heidegger's and Derrida's thoughts on the issue, our dwelling in the idea of home is indivisible from our life in that place we call home (Wigley, 1995, p. 97-120). This does not mean that 'the interior to the exterior corresponds (they are irreducible, differentiated, co-enacted)'. By implication, home as an idea projects onto what becomes deemed as 'home' as lived. Thus, it can be projected as anything from a cardboard box to a cave, a mansion or a yacht. In this respect, idea takes precedence over matter and space.

As we have seen in relation to 'home' – interior/interiority and inside/outside exist as a doubling. Thus, the presence of home (as idea) within an interior mode of dwelling arrives as the representation 'home', which is lived within, but is equally represented as life on the inside of the outside. But in turn, the presence of home is also inter-textual – it is drawn from representations of home from elsewhere, from that external to it. These representations more than influence the formation of the constructed interior, they are mobilized with the intent to transform what is present at the level of idea and the interiority of inner life and strive to act upon what is, or is not, formed externally. Effectively such representations structure the 'play' of interiority at both levels of dwelling (Wigley, 1995, p. 107). Yet they are ambiguous in their effectiveness/defectiveness – no apparent claim to efficacy can be made. Putting the complexity of these remarks in the frame of interior design: it is always the design of a place of being (coming out of interiority) and a being in place (taking the designed to an interiority).

Crucially, interiority and interior stand for that which is occupied, dwelt within, housed. This is why, as Wigley makes clear, architecture and philosophy fuse, why home and metaphysics interlace (Wigley, 1995, p. 115-121). We, in fact, inhabit idea, mind, self and space as a
seamless passage of movement from interior to interiority. With the physicality of home, we, as suggested, are placed in the inside of the outside (of us) (Deleuze, 1988). The home, as interior, is felt to be a place of worldly withdrawal. As such and in contradiction, home gives us a sense of shelter and asylum – from the violence of our being as we violently destroy while we create our world of being-in-the-world.

3.2.2 The significance of interiority

In 1985, C.J. Hewlett called for ‘a theory of human nature unique to inhabitation that is sensitive to human beings as psychological phenomena rather than objects and can deal with life in its wholeness as well as its fragments’ (Hewlett, 1985, p. 11, Ganoe, 1999, p. 1). Aware of the limitations interior design offers to the experience of inhabitation, Hewlett suggested developing a greater understanding by applying a variety of approaches to interior design. In his view, one way of achieving a better outcome would include ‘altering the consciousness of the designer’ to aim for a design that challenges the imagination and offers emotional rewards regardless of its pragmatic duty (Hewlett, 1985, p.10). He further stated that interior design’s most serious purposes are not visual, technological, object-oriented, or materialistic, but rather those of interiority.

Interiority can be defined as a process within a person that reflects an individual’s unique awareness of the world and a psychological relationship to the world that is meaningful in ways specific to individual consciousness. Such processes include the need to inwardly reflect on one’s own life experience and to understand this experience in a way that is supported by language, allowing for communication of personal experience with others (Ganoe, 1999, p. 2).

We are always in a place. Interior spaces are not only inhabited, but they also inhabit the people living in the spaces. The house becomes a setting for an interior life, where a person could construct an inner self. Essentially, the home identifies with the self. Places are absorbed in everyday life into our identity. They become part of one’s consciousness. As Ingraham (Ingraham, 2006, p. 85) elaborates, the interior of the house comes to stand as a metaphor for the inner life of the human. As such, it takes over in some sense “the space of interiority that the human psyche claims for itself when it leaves the surrogate interior of the house”. There are direct but complex connections to be made between the environments in which we live or work, and the life of our inner being – both influence each other at the levels of perception of possibility and limitation of action. Three figures interplay in these relations: the exterior, the interior and interiority.

Interiority is an exceptionally complex object of philosophical inquiry, but essential if we are to
understand what interior design does. To begin, we will consider an article by interior designer Christine McCarthy, ‘Toward a Definition of Interiority’ which was published in Space and Culture in 2005 (McCarthy, 2005, p. 112). Although one of the more insightful and useful texts on the interior and interiority from a scholar working in the field of architecture and interior design, it nonetheless remains contradictory. As we shall see, at one level, it stays grounded in a phenomenal disposition toward space that one might expect from her professional interests. But at the same time, McCarthy ventures into more complex theoretical engagements that raise numerous contentious issues. Notwithstanding this, what is useful about the article is that it clusters a whole range of perceptions of what interiority is thought to be at multiple levels of complexity.

For instance, McCarthy affirms the interior architecturally as ‘containment, enclosure, privacy, security, shelter’, as well as affectively as confinement, imprisonment, protection, but equally goes on to say ‘interiority is that abstract quality that enables the recognition and definition of an interior’ (McCarthy, 2005, p. 112). Interiority is intrinsic to the experience of being human, wherein cognition recognizes, and emotion reacts, to environments; it is not an agent in itself, instead it is always linked to space, desire, object, reflection and lack. We recognize and engage with the world around us; all material and natural things and other human beings as objects of our experience are outside of us. But through engagements, we know ourselves in a fundamentally different way. We do not look at ourselves only from the outside but significantly we experience ourselves from within, not as an object, but, as a subject that is present to itself. This self-presence is the interiority of a human being. This is the place where each person dwells. This self-presence eludes objectification, yet it is often overlooked as we are used to looking at things and dealing with things in front of us. When it comes to experiencing ourselves, we tend to focus on ourselves also as object and not as subject. We experience interior spaces as relationships between exteriority and interiority – the contextual and physical experience of being in a space and the perceptions and feelings inside one’s mind. However, throughout McCarthy’s article, interiority is conflated with mind and then treated as if it were lodged in a conscious subject and agency able to negotiate limits, borders and existential conditions.

The complexity of the conceptual framework to which interiority is applied by McCarthy is a reflection of its various uses by different authors. This is revisited at the end of this section to provide a working definition for interiority as it is applied in this thesis.

Without elaborating in detail what McCarthy presents in terms of interiority as a plural clustering of forms and characteristics, as an unanchored rhetorical figure it arrives at one moment evoked in various guises, at another it is called up with a claim to agency. Then later it’s expressed as a
desire for closeness (but one asks to what?), while at the same time cited as itself an 'imaging of
closeness and the making of relationships' (McCarthy, 2005, p. 114). Yet it is also taken as a
withdrawal from space into an entire inner life of totally compressed interiority. The deployed
rhetoric is replete with a confusion of conditions, space and agency with geometry fading in and
out of focus. More than this, interiority is also misread as a voluntarist condition of being (with the
ability to control one's surroundings and as the place where the inhabitant performs as host or
guest). Constantly geometry reasserts itself.

'Interiority' is not a guarantee of an exclusive inside location, for equally an inside is able to
sustain exteriority. In the context of interior design, inside and outside are architectural
prescriptions tied to the boundary of the building, whereas interiority and exteriority weave within
and without the built constraints of architecture, sometimes between them, and sometimes
independent of them. In part, it rests with the ability to control one's surroundings and the place
where one performatively acts (as for instance host or guest). Interiority is fluid– inner being thus
can be present or absent from where one physically is.

So often in McCarthy's eclectic assemblage fuse statements wherein observation, fiction and
time flow into a rhetoric wherein the poetics undoes critical insight. Consider:

Interiority is a transformative concept, dependent on social, cultural, physical and technological
developments in quite specific societies. As shown, it is far more than this and is grounded in our
being. The mobile phone is perhaps the most recent production of interiority as technologically
driven atmosphere.

Beyond the paranoia of electromagnetic carcinogens, the mobile phone calls on interiority to
transport its user to the memory of an interior. The bus becomes a teenage girl's bedroom, the
airport the trading floor of the stock exchange, the street corner rendezvous an office boardroom
meeting as the technologically transmitted rememberings of these past interior spaces (which
used to house telephones) bring with them the behaviours (tones of voice and body positions)

More of this is at stake here, for the binary real/imagined space is/has been broken. The interior
has been hyper realised – it is now everywhere where industrialized memory (technology) is
present. On this situation, do we not heed Benjamin '…the individual, on the strength of his
inwardness, to vie with technology leads to his downfall' (Benjamin, 1999, p. 9).

McVeigh states that spatialisation is the most basic feature of interiority. He claims that it allows
us to inhabit new lands visible only to our mind’s eye. McVeigh draws connections to interiority in
the discipline of psychology by exploring the notion of the soul. The soul has been associated with several notions throughout history; most commonly as a spiritual entity, a vital life principle, a moral discernment and cognitive, intellectual and emotional capabilities and principles (McVeigh, 2016, p. 43). The soul has also been an essential element in describing conscious interiority. Here, McVeigh is offering the soul as a cross-cultural entity with two main aspects; an impersonal, material life-force and a personal expression that survives death (McVeigh, 2016, p. 43). In this respect, the personal soul is captured by our interiority.

Figure 6 Augmented Interiority, Installation, Brisbane QCA. March 4, 2016, by author

Benjamin pointed out that the private individual (of the late eighteenth-century) who works and keeps his working and social life divided and who ‘deals with reality’ needed “the domestic interior to sustain him in his illusions” (Benjamin, 1999, p. 8). The interior becomes his universe (Benjamin, 1999, p. 9). As such, it is the space of the ‘minimal self’ in which all places and time arrive (Lasch, 1985, p. 15-20). Dream, sensory data, affect, cultural relations and embodiment like language, connects the interiority of inner life with the interiority of the inner space of the home.

This is to assert that the interior (the place of shelter, be it an interior environment or subjective withdrawal) is an asylum, a refuge. However, as we learn from Foucault (in Discipline and Punish) it is equally a place of forced containment – a location of the unfree (be it as a state of mind, a place of commitment or a bar on the exterior).

It is a place where things are transformed and left as traces (Benjamin, 1999, p. 9). The domestic
place of bricolage is that it leaves the traces of life. The street-saloons of the arcades were the most 'interior directive' of the arcades (as they were 'tastefully decorated and sumptuously furnished') (Benjamin, 1999, p. 54). As such, they symbolise the interior homes that constituted a changed interiority. They illustrated an absence of the world that people desired to have in their own homes and equally created a desire for what many people had – this not just being the form of the home but equally visibility in the ‘Passagenwerk, the place of the promenade (street, arcade, store) as it attracted the eye of modern life (Benjamin, 1999, p. 10).

3.2.3 Defining interiority

So, what does all this tell us about interior design?

First that what is designed is never simply an interior. Although we spend the majority of our lives inside, we fail to understand the habitual experiences of encountering internal space. All interior design comes from an interiority, an experience of being intangible physical space and from the experience of inside-ness, constraint and containment within intangible social and psychological constructs.

Second, that interior design is a complexity that is reduced to simplicity by a non-reflective practice; a practice that largely fails to be taken seriously and has become a source of public entertainment and a vehicle of political and economic agenda.

Third, for interior design to become a more responsible practice, it has to learn how to embrace the complexity that it ontologically occupies (design having a direct influence on people's being in the world and their actions).

And finally, that human beings exist in another space, a psychological space with psychological dimensions of our own experiences. The main implication of what has been argued in relation to interior design practice is that it (the designed) is not simply fixed in space – a location.

Rather it is a fluid intersection where interiority is formed and deformed by what it brings into that space, along with what is projected into it as the dream of elsewhere or other.

Interiority is a powerful tool for analysing and therefore understanding the complex implications of design. The philosophical complexity involved in its definition and the multiple uses to which it has been applied unfortunately make it difficult to use in an agreed form across disciplines. For the purposes of this chapter, interiority has been used to refer to the experience of design as opposed to the apprehension or analysis of the designed object itself.
Contemporary philosophers of mind often raise serious questions around the concepts of self, subjectivity, and ‘the inner life’. As a definition, interiority stands for being within, being inward, internal, relating to that which is within, pertaining to the mind and soul. Psychologist.

Sigmund Freud has linked interiority to the unconscious mind (Steedman, 1995, p. 4). Maurice Merleau-Ponty’s view of interiority is of subjectivity and selfhood (of the inside mind). He wrote that space is existential, and that existence is spatial. Being human is, therefore, fundamentally related to space. According to Merleau-Ponty, the body and mind inhabit space, and by doing so, we construct a meaning of space. Consequently, when we architecturally express space, we create a realisation of the thought of space. This identifies the responsibility of the designer in the creation of the interiority of the dweller. Equally, interiors are shaped by inner thoughts, dreams and memory – our interiority and inner life (Merleau-Ponty, 2002, cited in (Perolini, 2014). Apart from interior spaces being inhabited, they also inhabit each individual living in them. This happens when an individual construct his/her inner self (interiority) within the house he/she lives in and mostly, the inner self identifies with the home. The individual's consciousness absorbs the house he/she lives in and identifies itself with the place. Metaphorically, the individual's inner self completely identifies itself with the interior of the house, and their psyche claims the space when the person moves away from the surrogate house interior (Perolini, 2014).

Thus, interiority in this chapter encapsulates the agency of the subject experiencing the design as well as the abstract nature of that experience in the virtual worlds of cyberspace, the novel or the television show. If we apply this to the example of the Paris Arcades, we see that the designer’s awareness of the social and cultural implications of the experience of the subject of their design, informed and drove the design in a significant manner. Similarly, the ongoing design decisions made by the organisations that adopted and adapted that initial design to create the department stores of a century later embody and create the interiority that is the experience of the staff and the customers of those commercial spaces. Thus interiority, defined as the experience of the subject of the design provides a dynamic feedback system where those agents subject to the design is shaped by the designer’s original intent and, in turn, shape the ongoing evolution of that design through their agency as the subject of that interiority.

The interiority, then, is where the individuals lived experience meets the designer’s intent. But interiority has more profound significance as well.

3.2.4 Culture, Soul and the Modern City

Martin Heidegger, in Building Dwelling Thinking states that the relationship between human and space takes on the form of dwelling. He argues that the manner in which we dwell is the manner
in which we are, we exist, on the face of the earth – an extension of our identity, of who we are (Cultural Reader, 2011). Connections can be made here to Heideggerian thought on “care”. For Heidegger, care is the fundamental structure that underlies each and every particular human existence. Influenced by Aristotle’s work, his work is of interest here because his unique understanding of phenomenological philosophy provides a powerful insight into the importance of interiority. If the way we dwell is our understanding of what we are, the source of meaning in terms of our connection to the world, then our interiority is the most precious and important means of defining ourselves. Care, a term used by Heidegger for the concern and caring about the self and its existence centres on the idea that the individual human being needs to, in the first instance, care for the physical self which then also extends to caring for the emotional self. According to Heidegger, only when human beings understand this “taking care of one’s self” can we instill that same care on our actions. The act of dwelling, then, is the process of creating an interiority which is the means whereby we create our understanding of ourselves, the meaning that we attribute to our lives.

3.2.5 Interiority and Indigenous Culture

The notion of place and being inside in Australian Indigenous cultures rests heavily on an interconnected sense of life. In indigenous culture, everything is seen from a cosmological view, including the conception of people and human society. In its purest form, the task of spirits is to maintain the ecological and spiritual balance, being ultimately responsible for the ongoing harmony between the natural and cultural systems. Here, harmony and balance are the key to the health and continuity of the two systems (Johnson, 2014). The land is fundamental to the wellbeing of Aboriginal people. The land is not just soil, it is place, and the people are connected to it on a spiritual, physical, social and cultural level. Aboriginal spirituality is defined as being at the core of Aboriginal existence, their very identity (Liddle, 2015). They never own it but see themselves as being the custodians of it.

To dwell is to exist, to create an interiority that is an expression of the meaning that informs life and forms the spirit. Aboriginal groups have lived on the same land for over 50,000 years. The depth of their understanding of that land has been fundamentally damaged by the western construct of dwelling and the taking of their land. Australia has significantly changed since the European arrival in 1788, and the Indigenous people have been excluded from their country through its conversion into ‘property’, herded onto missions and assimilated into towns and cities. Despite this, Indigenous culture is still strong and is integral to the well-being and future of First Nations people. This culture is maintained through knowledge of kinship, dance, art and music. This knowledge is passed on to each new generation, just as it has been done for centuries.
through dance, art and music. While this cultural practice allows people to learn about the Dreamtime, ancestors and families, sacred sites and stories, their separation from the country is a major hurdle to developing and maintaining a full cultural experience. The interiority which connected the culture and soul of the people to the practice of nurturing the land has been broken.

This is highlighted in the designs of dwellings inflicted by European settler society on First Nation communities. Traditionally, the layout of individual shelters in campsites had to account for kinship and behaviour patterns between group members (AHURI). While Indigenous culture is dynamic and has accommodated many aspects of western lifestyles, many customary behaviour and cultural practices also remain and have impacts on the design (and costs) of housing in remote Indigenous communities. These include large and complex households, mobility, a desire for wide sight-lines from a house, different seasonal use of spaces, outdoor-indoor living, outdoor cooking and socializing and what Memmott (2010) calls “culturally distinct behaviours in domiciliary environments”, including: “forms of approach and departure behaviour, external orientation and sensory communication between domiciles, sleeping behaviour, cooking behaviour and other earth-oriented behaviours, and particular storage techniques for artefacts and resources” (Memmott and Moran, 2001). The positioning of dwellings, openings to the exterior, the layout of the interior right down to the positioning of the bed are connected to and in harmony with one’s existence in the cosmos. This intrinsically ethical conception of dwelling and the creation of the lived space is a very different way of living to that experienced in western culture. Indeed, it is perhaps a useful reference to what is possible in terms of developing a rich interiority (Adkins, 2015).

At a recent conference Asia Pacific Space Designers Alliance – in Adelaide in September 2016, Alison Page, an Australian Indigenous Designer, presented her own work working with various urban and rural Aboriginal communities in the delivery of culturally appropriate design (Page, 2016). In her address, Page reintegrated the importance of a place that nourishes you and forms your identity. This, she claims, is achieved by having a deep connection to country. A country binds people to place, and this is revealed over time living in it. Page explains that in order to find country we need to lose city. “You need to live on the land to experience and feel country”. Her approach encourages designers to camp on-site before initiating a design. Alison also believes that our designs need to tell a story. "Everything we do tells a story, and in Western cultures we often don’t think before we create something. We need to think more carefully about what story we are telling as all our creations and their stories add to cultural capital" Page claims that the land owns Aboriginal people, and every aspect of their lives are connected to it. The connection
to land gives Aboriginal people their identity and a sense of belonging. As caretakers of the land, Aboriginal people do not see themselves as ‘owning’ land, animals, plants or nature, but rather belonging with these things as equal parts of creation (Page, 2016).

“In white society, a person’s home is a structure made of bricks or timber, but to our people, our home was the land that we hunted and gathered on and held ceremony and gatherings” (Nala Mansell-McKenna). Similarities can be drawn between the indigenous care of the self in relation to land and Heidegger’s claim to self-care and the ontological knowledge and capabilities one has on the self, others and things. Heidegger states that if one has this knowledge, then one cannot abuse that power.

3.2.6 Enlightening Interiority

Understanding the Enlightenment and the Age of Reason is pivotal to understanding interiority replaced medieval concepts about the cosmos, providence, creation and the human’s place in the world, with rationalism and the scientific method as the central mode of apprehending awareness. The Enlightenment promised lives based on order and reason. It gradually replaced the complexity and opulence of the baroque with the simplicity and clarity of neoclassicism. As scientific reason replaced religious belief, classification and reductionism challenged previously established, and arguably more holistic, world views.

The resulting social climate had a profound effect on architecture and interior design. This, in turn, had a profound effect on how life was organised for and experienced by the average citizen. The herding of the peasant class into industrial cities as workers, the enclosure of the commons and the regulation and commercialisation of labour led to the rise of organised labour, the suffragette movement and socialism. All these theoretical frameworks carried with them notions about how the private domestic space is organised and about the relationship between the private interior and the public exterior as well as roles within the home. The division of class had a noticeable impact on people’s connectedness with the home. New social classes, including the
middle class and the industrial working class, developed.

Family dynamics, gender roles, and demographics changed in response to industrialisation, and so did the interiors of homes. The introduction of the factory system effectively changed people’s relationship with the external world and each other. Before to industrialisation, the family was the basic social unit. Most families were rural, large, and self-sustaining; they produced and processed almost everything that was needed for their support and trading in the marketplace. Household tasks almost entirely absorbed women’s time. Under industrialisation the family became less important. The household ceased to be the focus of production as factories took on that role and was converted into a node of consumption.

Another key change was the development of bureaucracy, with the focus shifted to organisations and not the person within it. While rational materialism had enormous material advantages, it is important to note that this change in cultural norms had a significant influence on dwelling and how the home was understood. The impacts of the Industrial Revolution were felt both on the individual and society and had an effect on human agency and happiness. Several branches of post-Freudian theory refer to the term *Iron cage theory* when describing society’s disenchantment with an increasingly bureaucratized world. The concept was first introduced by Max Weber to describe a trend in society to move towards a form of bureaucratic rationality that would not realise universal freedom, but rather create an “iron cage” from which there would be no escape. For Weber, this disenchantment with the world lay right at the heart of modernity.

Another important aspect of disenchantment was the challenge to the concept of home. The separation of the home from work challenged both private and public life. Before the Industrial Revolution, families worked together in cottage industries and businesses were run from the home. Even the formal institutions such as Guilds were often family affairs, with apprentices housed by the Master. During the Industrial Revolution, every member of the family continued to play a role (Adkins, 2015). Men, women and children all worked in factories or mills. The work was challenging, exhausting and, at times, dangerous. As the Industrial Revolution continued, a sharp distinction between work and home and private and public life, emerged. With the emergence of long working hours, domestic life was damaged. Families returning home from work had little time left for any interactions. The working class felt this change the most. Domestic life transformed dramatically for them, and as a direct result, the interiors of their homes changed. In this sense, disenchantment shaped the interiority of the home (Adkins, 2015). Although there was less time spent in the family home, it became a refuge away from the terrible working conditions in factories. The home was experienced as a private world that, in contrast to work, was safe, enjoyable and private.
The notion of the dwelling as a safe refuge from a harsh exterior remained, but industrial, bureaucratic society had begun to replace the wilderness as the threat from which we needed to shelter.

3.2.7 Modernity, Interiority and Consumption

After the beginning of the 20th century, new factors challenged the existing sense of interiority. The harsh external world of work and survival saw the home emerge as a place of refuge, fortifying people to survive and in stark opposition to the workplace (Adkins, 2015). The home-based behaviours and roles adopted to achieve this fortification were significantly expressed through décor. Homes were established as happy places where one could bring up children, a relaxing refuge to recover from the awful working day. For the wealthy, this was expressed in incredibly ornate interiors, especially prominent in the drawing-room, where people gathered to play games. Australian homes at that time also featured parlours or front rooms, decorated with pictures and ornaments of happy times.

World War 2 (WW2) marks a cultural shift – a notable rise in spending power. Wartime production had helped pull Australia’s economy out of depression, and there was a notable spike of post-war investment in manufacturing, practically non-existent before WW2.

Knowledge gained through wartime manufacturing inspired the production of new products, especially cars and white goods, now rendered affordable by better wages in post-war factories. More efficient production methods and better wages were self-reinforcing: a higher standard of living offered a better lifestyle through the consumption of the output of the increased manufacturing. Alongside new technologies and industries, there was increased value put on education. People believed in the reform of education and technology as the foundation of a better future for their children. The revised school system aimed to produce a nation of higher-level thinkers to increase the white-collar workforce to encourage upward mobility (Adkins, 2015).

The 1950s-house reflected this idea of upward mobility and status. Kitchens and living rooms were still considered places of refuge from the harsh outside world, but they increasingly shifted towards reflecting the new aspirations of doing better in life. Kitchens in particular signified status by showcasing new modern designs and built-in appliances. Objects became part of one’s identity. Consumption became part of the social obligation to society.

The aestheticisation of the kitchen in the 1950s shifted its importance in the hierarchy of the household. Formerly designated as back-of-house, the modern kitchen was now a display room and significant part of the homeowner’s identity. The freedom provided by domestic technologies
provided more leisure time and the possibility to advance careers outside the home. This was the commencement of “generations of insufferable entitlement” (Sparke, 2008). Upward mobility was not restricted to middle-class Australia, or the Western World in general, the post-war period was marked by independence movements, and revolution as third-world countries and developing nations railed at a world order dominated by the industrialised West. A burgeoning youth culture specifically and overtly rejected the conventions and niceties of previous eras, especially those social values they considered superficial and materialistic (Adkins, 2015).

3.2.1 Contemporary Individualism and the effects on interiority

The proliferation of choice paved the way for what we now call contemporary individualism, or new individualism, with its focus on identity and consumption. The traditional forms of identity-construction based on citizenship had now moved to post-traditional forms of identity-construction, promoted by globalization and neoliberal policies. The ideas and aspirations of the baby boomers were very effectively harnessed through a system of consumption and through the organisation of work. “We have no choice now but to keep making choices. Everything we purchase now may have consequences for how the item will appear in the home” (Adkins, 2015). Taste comes to be harnessed as the personal choices one makes in terms of clothing, accessories, furnishings, and so on. However, one is never entirely free in making choices about one’s own identity (Adkins, 2015).

Torstein Veblen introduced the theory of conspicuous consumption the late 19th century. Veblen used the term to refer to consumers who buy expensive items to display wealth and income rather than to cover the real needs of the consumer (Veblen, 1965). The ability to rise in class was still very prominent in contemporary individualism and having a good social standing gave the freedom to express individualism. Similarly, Bourdieu, for instance, describes consumption and “good taste” as a way for higher social classes to distinguish themselves from the lower classes (Bourdieu, 2013).

In the home, this was once again expressed in the choice of furnishings, products and decoration. The objects we buy and display in our homes not only express our individualism, but they also construct our identity. It is a conscious creation of identity through interior design, an identity created from furnishings and decoration. We have become unable to construct our identity outside of consumption. Consumption is designed for us to see a constant idea of lack and a desire to be better and have more, the notion of an unfinished self. We are so embedded in this context that we are unable to see outside of it. It is also a very powerful influence on how interiority is understood today.
Adkins gives an example of identity and work. Over history, we have seen the undermining of traditions and traditional ways and new levels of uncertainty in terms of identity and work. Adding to this are the growth of privatization and the shrinking of communal ties, cutbacks in welfare, contract work and casual work. We are now responsible for establishing our own identity in a society where values and expectations are uncertain and continuously shift. The separation of home and work is not merely the re-organisation of society; it is also the redefinition of self. It is intimately involved with the redefinition of interiority so that the expression and creation of the self through the decoration of the home and acquisition of objects almost completely subsumes any other form of identification. That this is severely constrained and directed by the predetermined rhythms and spaces of the house is not merely an accident; it is an essential component of how identity is related to broader society.

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We are now responsible for establishing our own identities in a continually shifting society. These external uncertainties mean that our interiority is increasingly critical in establishing meaningful relationships of the certainties in life such as friendships, kinships, family and memories, hence become ever so present in the home. In an uncertain outside, it is important for people to re-
connect with others and objects often play an important role here. An example is the use of display cabinets, showcasing gifts from people, prized possessions and important images, collections and so on. These objects in the home are not just belongings.

They stand for people or the kinds of relationships one has with one’s own space. A quote from the paper “Accumulating Being” talks about the ways people accumulate being through the activity of collecting and displaying objects in their home. One of the people interviewed said: “These cups and saucers here are gifts from my daughter for birthdays and Christmases. The teapot was a gift from my husband; it has much sentimental value” (Noble, 2004). Given the alienation created by the removal of spiritual connections between the individual and the exterior world, it is not surprising that these kinds of activities are increasingly important.

What we collect and how we display objects in the home references one’s taste and the taste is linked to identity.

The notion of what to purchase and how to exhibit it in the home is associated with making deliberate decisions that drive the act of investing, accumulating, arranging and displaying. This is what is called taste. It is not a set of attributes per se, but an embodied sense of who we are and how various objects and places coalesce with the self. In fact, this is the primary way in which interiority in our contemporary environments is expressed in our houses. Interiority in today’s interiors can be understood as being about ordering space and time. Although there are pressures and uncertainties on the outside, we create a personalised space on the inside. In a sense, this creating of spaces is to shelter and protect oneself from the harshness of the outside. An example can be creating a designated space for reading, a sacred space to maintain identity. Collections feature heavily in this new interiority. They act as a way of manifesting identity, and they also stand as a symbol of duration and time. Additionally, home is also interiority shaped by the idea of upward mobility, a measure of success in gaining and maintaining control in an uncertain world, as discussed earlier.

Technology has also been instrumental in expanding the domains into which we can extend our interiority. These technologically expanded domains stand in direct contrast to the natural or external world. Technologies, such as the mainstream integration of electricity in homes, allowed for a different occupation of spaces and new spatial experiences in the home. With reliable lighting, we can defy the natural rhythms and read and work in the dark. Today, mobile devices and the possibilities of virtual connectedness extend this motility into the locus of connection. We are no longer restricted to communicate, and so form social groups, with those who are physically present. This is a significant expansion of the notion of interiority into a virtual arena
that has no physical exterior.

3.2.2 Technology and interiority

The extensions of the affordances of energy that drove earlier systems of production have now become mainstream in the home. We now conduct our many relationships of work, health, friendship and many others from our homes with the means of devices that connect us to anywhere at any time. These become sets of convergences of fields (Adkins, 2015). We can sit in our living rooms and purchase goods. We can plan our trip on public transport from our couch. We can Skype with friends far away sitting at our dining room table eating dinner, and we can continue working from home after leaving the office. More than ever before, work and consumption integrate with the home. There is now an expectation of being available at any time. Equally, purchasing is no longer just an option; it has become part of our identity and the obligatory construction of us in relation to society.

“The unstoppable forward march of technology has had an undeniable impact on human culture and society” (Oaks, 2014). Oaks explains that technological development is everywhere, and technology has shaped our world and moulded our lives into what they are today. It is not surprising that the home is fast evolving to take advantage of the various technologies available today. The smart home will join smartphones, connected devices, and other technological miracles in shaping the “smart life” of the 21st century. The numerous advantages of having a smart home over a traditional home have been well documented. Not only do smart homes provide dwellers with much more control over their security, comfort and luxury, they are also aiming to be more ecologically friendly and reduce running costs. This smarter life has a promise of being a better life; one that is being more secure, more comfortable, more connected and perhaps better than ever before (Hoffman and Novak, 2015). However, there is a danger that our over-reliance on technology has made us less capable of interacting with the real world (Oaks, 2014). We interact with our smart phones when in the company of friends with whom we share a physical space. We bring the digital into the physical realm of coffee shops, places designed intentionally to meet and enjoy conversations. The danger is that we have completed our alienation from the spiritual framework of nature by creating an artificial interiority in which we permanently dwell.

In the smart house, devices are now able to communicate with each other as well as with the home’s occupant. Common household objects such as refrigerators, ovens and toasters have intelligence built into them. Today a smart fridge orders the weekly groceries, a washing machine can tell when the clothes are clean and smart kitchen robots control the kitchen (Hoffman and Novak, 2015). Technological innovations within the home are nothing new. As this chapter has
discussed, new technology has always had an impact on how people interact with their environments and between each other. Equally, technology has changed how we communicate, and together, the impacts have had a profound effect on people’s lives and their dwelling. However, the integration of smart technology and mobile devices have added a new dimension on the social impacts and also changed the interior landscapes of homes significantly.

Technology and interior design are merging. It is hard to see a future in interior design without the integration of smart technology. Houses are becoming fully interactive with that interaction involving every surface. “Everything in the house can be used to communicate, and the interface is ubiquitous. Through projections that are activated by the presence of a person, everything can be controlled with the movement of the hands: the lights; turning on any electrical household appliances; music; even connecting to Skype for a conference from any part of the house. Once connected to the internet, any device can be managed and switched on and off from anywhere in the world, and even controlled by mobile phone, tablet, or from any device which is connected to the internet” (Pople, 2013).

3.2.3 Reflecting on interiority

An examination of interiority reveals that what we loosely call culture is held in both the individual and the social experience. The collective impact of the designers who contribute to the creative activity that develops culture create an environment which is experienced by the users of those designs and, in turn, create the socially visible culture through their response. The observable culture of a city, nation, place or society is, therefore, a dynamic process of feedback between the deliberate contributions of designers and the lived experience of the users.

This has two separate but related implications for this thesis.

Firstly, the long-term implications of the design practice include the affordances that those designs offer to users experiencing, using or living within that designed object or space.

Secondly, as a result of the ongoing nature of that process, any attempt to measure those long-term implications must take into account the activities which those users carry out with, on or in the designed object or space.

As a result, we cannot simply measure the physical characteristics of a designed object and determine whether it is sustainable, efficient or socially responsible.

Interiority examines and explains the relationship between the design experienced by the user and the cultural experience they have of that design and so project into the world they influence.
That provides an account of the mechanism whereby design decisions and practice extend their influence into the future and beyond the immediate physical presence of the designed object or space.

We have seen that the impact of the Paris Arcades continues to be felt in urban planning today. In that case, the shopper making use of the arcades became the vector through which the social and cultural impacts of the design implications of the Arcades have been projected into twentieth-century commerce and therefor twenty-first century urban planning. The interiority, created by the interaction of the creativity of the designer and the dweller, has a specific impact on the long-term future. That is not the only vector, however, by which a designer influences the world outside the interior (or the product, building, or urban space) they are designing.

3.3 Home Eco-nomy: Dwelling, destruction and design

One rich field of literature exploring the interaction between designer and user concerns the design of the home. This complements the examination of interiority in general and connects this study of interior design to the next section that deals with the design of cities. Importantly, a large amount of this literature explores the socio-political and economic implications of home design, thereby addressing the challenge that Design Futures offers designers, namely, to take responsibility for the longer-term implications of their design.

3.3.1 Oikos and the general economy

*Oikos* was originally designated by the Greeks to mean home, household and habitation. *Oikos* was then linked to *logos* and *nomos* (the word of the law) to become ecology. (Schulman, 2012) If we add the associated term for proper/properness/property (*oikeios*) (Wigley, 1995) we now have the formulation: ‘the law of living properly in the world as home’. We will be arguing that this is not, at least in the developed and developing world, how we live.

If living in alignment with the ecological is any measure, and if *oikos* is a critical measure, then we can say that at an essential level, we are living unlawfully. Some of us know this, some of us feel it, but large numbers of people still do not know or do not care. However, in terms of ‘acting in the world’, it is not as if, at a fundamental level, we can actually choose how to live.

The reality is we are thrown into a condition of worldly structural unsustainability – it is elemental to the environment of our being. This means living among ‘the madness of things’ and with the contradiction of consumption without consuming. Reflect for a moment on just how much ‘stuff’ most of us have gathered around ourselves to support the normality, which is our unsustainable way of life. We have wardrobes full of clothes; furniture and furnishings; books, toys, cars,
numerous electrical and electronic goods; gardening equipment, sports gear, the material fabric of houses and apartments, and so on. As an animal arisen out of animality does not this unchecked level of material acquisition, seem strange, bizarre, mad, extreme?

Can this massive disjuncture between what we need (materially, socially and psychologically) to sustain ourselves in a condition of wellbeing and what we actually think we need (and therefore acquire) continue?

We do not choose to live amid the ‘madness of things. As said, we are born into it. This condition of normality is maintained and extended by the ‘semiosphere’ of the marketplace as the (inter)face of the cultural economy. This domain of images, messages and cultural practices are where, and in so many ways, we are interpolated to become what we are. Such a semiotic environment strives to engender desires for the promises offered by commodities – yet frequently the pleasure, meaning and security promised is illusory. Within this semiotic environment, we learn how to act, what to desire, how to dream – and, in large part, how to become unsustainable as a mode of ‘being-in-the-world’. Living in the sign-world of an economy centred on excess, where a material fabric of commodification has run out of control, learning to be otherwise is no easy task.

Part of our problem is that (economic) consumption does not consume (biophysically) very much at all. The economy in which consumption is operative is ecologically dislocated. Its ever-increasing globalization drives the dynamic of consumerist economic development and delivers the very antithesis of the well-being it is projected to deliver.

In this context, the home is not the haven of security we take it to be. Yes, it is that place where what Christopher Lasch called ‘the minimal self’ can retreat for comfort and shelter in the storm of modern life. (Christopher, 1984). But the nemesis of this ‘being at home’ – the materiality of unsustainability – grows closer. ‘Home’ here is not reducible to just a place – i.e., a house or apartment. Before going further, we need to relate home to economics, but we also need to expand that category to that of exchange.

Economy and does not entirely equate with economics, and the nature of fundamental exchange is at odds with the character of the capitalist economic system. To understand this, we have to return to the ecological.

Bio-physical ecologies function by exchange at the most basic level of biochemical processes aided by the power of the sun: taking matter through cycles of formation, transformation and decomposition. At every stage of the cyclic process of something coming into or out of being,
there is an exchange between elements. Georges Bataille named this process ‘the general economy’ He also pointed out that the development of economic systems by human beings – culminating in hegemonic capitalism – has created a ‘restricted economy’ (i.e., a system that is disarticulated from the general economy) (Goux, Ascheim et al., 1990).

This restrictive economy was initiated many millennia ago, probably at the very beginning of agricultural societies. The availability of a surplus made the exchange of goods possible. The economic benefits that could be gained from exchange of this excess came to be recognised and likely prompted the intent to produce, store and trade a surplus. This exchange practice became widespread and normative, and it established a condition of economic dislocation that allowed the restrictive economy to flourish and come to dominate human conduct. This was equally underpinned by anthropocentrism – i.e., self/human-centred interests which directed the act of exchange without reflecting upon the consequence upon life in general.

3.3.2 The economic location of home in the restrictive economy

Over a vast expanse of economic time (the time of all economic systems) the home became a primary site of expenditure within the restrictive economy. First, it became a point of reception for the arrival, use and using up of goods and services; second, it became the location of the production of goods (‘cottage industries’); and third, it became a location of servicing and supporting labour-power. Finally, the home was established as a primary zone of ‘consumption’ and continual material destruction.

Income started to be expended to acquire and accumulate an increasing number of goods for the home. Some of these goods, combined with what Karl Marx’s called ‘unproductive labour’ (returned to productive labour by feminist theory) (Ferguson, 1979) were employed to support and service ‘labour-power’. Take the example of a coal miner in Europe in the nineteenth century. Goods were purchased: a stove, a kettle, a tin bath, soap, a skillet and food. Action was taken: the miner’s wife heats the water, fills the bath, washes the miner’s back, cooks his meal. His very ability to work was significantly enabled via these goods and expenditure of labour. The labour of his wife enabled his labour (hence her productivity was indivisible from his). Of course, the miner’s wife may have also worked at home (for example, as a seamstress, or spinning, making matches, or a host of other cottage industry activities).

As capitalism and technology developed, the home became increasingly within the remit of the restrictive economy. This can be seen with the rise of home economics and domestic
technologies (Cowan, 1983). Christine Frederick, for instance, applied the scientific management methods of Frederick Winslow Taylor to the management of the home and domestic labour (Taylor, 1911, Frederick, 1920). The home as a commodity sphere expanded with the introduction of domestic technologies (like carpet sweepers followed by vacuum cleaners; clothes boilers and mangles followed by washing machines; kitchen ranges followed by gas and electric stoves). These were claimed as labour saving, but this was contradictory. Such products and all the electrical goods that came along after them ( Fridges, electric kettles, food mixers, juicers, microwaves, etc.) required an increase in the family wage. And, along with the purchase of other household durable goods on credit, they generated debt. These trends combined with the extension of the home interior as a key site for the acquisition and display of an increasing number of decorative and commodities and treatments. Thus, the home became an ever more semiotically charged space. Decoration, technologies, functional and non-utility artefacts all fused as the sign-world of domestic modernity.

To acquire and display this modern designed and designing way of life, more and more women moved into the workforce. Initially, these were single women employed in office and administrative positions to service the increased commerce generated by the output of mass production and promotion of goods by mass communication print media. This gave rise to greater fashion awareness and a willingness of women to spend their income on fashion items to meet the dress standards demanded by workplaces and a social life linked to the burgeoning entertainment industry. The growth in fashion-conscious consumers in turn led to an increase in manufacturers of fashion goods – they simply recognised the enormous future potential for profit.

The rising demand for fashion items such as clothing, footwear and cosmetics (cosmetics were associated with prostitution and only became socially acceptable in the 1920s) led to an increase in retail space. Furthermore, with continual infiltration of the media into women’s everyday life, in particular women’s magazines, and thereafter the significant impact of film, ‘consumers’ became even more aware of, and captivated by, fashion trends. Outward appearance and attractiveness came to be recognised by almost all women of all classes as having a direct correlation to their identity, and their economic and social success. Beauty was no longer the domain of the naturally endowed or privileged but was marketed to all women who had the means to buy those commodities that purported to bring it. Indivisibly, the fashion and cosmetic industry of the twentieth century thrived on the media’s preoccupation with physical appearance and idealised female bodies.

Beyond the rise in the power of mass fashion, more and more families began to develop a desire for household goods, modern appliances, automobiles, and better housing – such things became
the means to realise a lifestyle, an identity and to express success via ‘conspicuous consumption’. This drew more married women into the workforce to help meet the cost of these new ‘needs’.

Obviously, this process has not stopped – in one direction in the ‘developed world’ the explosion and turnover of goods directed at the home has constantly increased constantly, mainly as the size of homes has grown. In the other direction, for the ‘developing world’, the home increasingly becomes a place for the growth of ‘consumption’ based on an unsustainable model drawn from developed nations. These forces of unsustainability combine to ever increase the disjuncture between the general and the restrictive economy. In so doing they add to the case for another kind of economic system – one that is just and far more sustai-nable.

3.3.3 Home, exchange and destruction

While the home is mostly seen and felt as a centre of security, shelter, personal regeneration and nurture it is also a site of destruction ‘… after the battlefield, the home is in the front line of destruction’ (Fry and Ebscohost, 1999).

Material destruction triggered in the home is not merely after the utility of goods is exhausted but equally the erasure their sign value (Baudrillard and Levin, 1988). ‘Consumption’ (assisted by the power of the sign) drives production and economic growth. Historically, it was the social order that gave objects their importance, but increasingly, objects came to give persons social status. Beyond this, people become objects of sign value. For millennia, body ornaments and then fashion were used by individuals and social groups to indicate status, gender, class, wealth, etc. Fashion, as a non-verbal communication of meaning and identity, has a longstanding relationship to the power of individuals and groups. Men and women in the corporate business world, for example, ‘power dress’ as a sign of authority, success and position. The type of clothing a person wears is, of course, also a sign of their ‘culture of association’, sub-culture, taste, self-image and so on. Like fashion, the interior of home became an outward expression of status and culture, a projection of taste or the lack of it, and the declaration or illusion of wealth.

The home can be seen as the end of the line of the supply chain. Its destructiveness is measurable not least by the volume of material it deposits into the waste stream and landfill. Yet consumption has not been realised: many materials will not biodegrade; numerous products are as they ever were material, except they no longer function; significant numbers of materials that could be recycled are not because no recycling infrastructure exists to do so.
And then there are those products containing toxic materials that leach into the soil and find their way into the water table, creeks, rivers or the ocean. Yet the home remains ‘clean’ – destruction is sent to the wasteland elsewhere.

3.3.4 Home and the nature of dwelling

So far ‘home’ has been addressed as if it were simply a place, but it is not. We need to go to the idea of dwelling to reconfigure how the home can be thought and positioned. We, humans, dwell in our inner selves – and this condition is indivisible from how we live and act in the world. At the same time, the ‘external’ world is the home of our ‘home’ (Fry, 2005). This complexity of dwelling, as our thinking, directs what we build, and as what we build directs our thinking in our being-in-the-world, is the focus of Martin Heidegger’s seminal essay ‘Building Dwelling Thinking’ (Heidegger, 1975).

In this geometry, home embraces ‘the world’; the inner sanctum to which we retreat; and the locus of our domestic life. Unsustainability is our enacted disjuncture between these locations (of our being). As such, it is the failure to recognise the ‘law of the home’, housekeeping, oikos. The implication is that we have to learn how to rethink home and its economy as it becomes economy. Sustain-ability thus starts in our inner life.

3.3.5 Re-designing the home (ontologically)

What does ‘the’ home do?

As we have argued ‘a home’ is not a passive or neutral space. Increasingly it has become a designed environment that designs. But we then ask – how does it design? Our answer is far more than at the materialistically determinist level that haunts so much domestic architecture. Of course, spaces – their functions and domestic technologies – do instrumentally design what can be done in a home, but our concern is more fundamentally ontological. As Mark Wigley put it: ‘we build a home and home builds us’ (Wigley, 1995).

This comment ruptures the binary cliché: nature vs nurture. The key point is that a home constitutes an ontologically designing environment which has profound consequences for the formation of our ontology. Here home is not a mere place, large or small material space with a given aesthetic, filled with things, but rather a complex intersection of the exchange of objects, signs, information, social interaction and the designing power of the ongoing and combined agency of all these ‘things’. So, rather than being seen as a container, home is a transit station through which pass the material and the immaterial, the organic and the inorganic, ideas and knowledge. In this milieu, subjects are formed and/or deformed with particular characteristics.
The worker, the husband, the father, the wife, the mother, the consumer, the carer, the cared for, and so on, are the ‘we’ who prefiguratively build a home (as the idea of home goes ahead of us) and who, in turn, are built by it (as its form ontologically designs our mode of dwelling).

Always far more than simply a house or apartment, the design milieu of the home itself is the life of the home as lived. This living is expressed through a designing engagement with a ‘being of beings’ and a ‘being with object-things’ in contexts like domestic work, playing games, learning skills and ‘homework’, ‘home entertainment’, pleasure, the giving and receiving of care. While the ontological designing of the home (its self-building/building of the self) is often self-affirming, the reverse is also the case. Dysfunction in myriad forms: nihilistic values, anti-social conduct and unsustainable material practices, is the other, and frequent, companion of, nurture. Dysfunction is as much a force of designing as all other design agencies, as the home builds our ‘being and our being at home in the world’.

The home is a complex place of exchange in which bio-physical, psychic and fiscal economics collides. We are a node of the general economy, a site of the collision, and a representative of the restrictive economy as we serve it and as it serves us.

If all this sounds contradictory, it is because it is. Creation and destruction cohabit in all economic practice. There can be no sustainment without knowing this and finding our path through the contradictions of our economic life at, and beyond, ‘the home’.

3.3.6 Home in the age of unsettlement

The world (as home) is made increasingly unhomely as destructive material outputs of the (modern) home impinge on the world’s general economy. The disjuncture between the restrictive and the general economy is accelerating the unsustainable. ‘Environmental impacts’, as we represent them, are but one kind of visible symptom of this situation. The home, as place, as we have been arguing is centrally implicated in the disjuncture and consequent impacts. As the impacts of the unsustainable proliferate in the form of varied human-induced disaster events (from climate change ‘extreme’ events to related crises in food production and resource stress prompting large movements of populations and potential conflict) people everywhere will be ever more unsettled.

Unsettlement is a condition of mind and place; it destabilises the relations between the home, inner life, dwelling and world. As such, the way we live, the way we are will change. Insecurity can but grow, which means that creating ways to respond to this situation positively becomes ever more critical.
We, wherever and whoever we are, need to start thinking about how to create a new home (a new kind of dwelling and a new kind of living) as well as seeking a resolution of economic disjuncture. This can only happen by design, but design has to be changed so it can respond. The starting point is learning how to redirect design so it may be redirective (Fry, 2009).

3.4 Reflecting on the power of design (Conclusion of Chapter 1)

While there is a clear and close relationship between interiority as a concept and Interior Design as a discipline, the framework by which we can identify the users’ experience of creative work and the impact of that experience on culture more broadly applies to all creative acts. The theoretical examination of interiority includes examples of television programs, communications technology and consumption generally. Interiority then is a tool for examining the way in which any design decision connects, through the experience of its user, to its long-term implications.

The examination of the role of the nineteenth-century Paris Arcades in the creation of twenty-first commerce is an application of that mechanism over a dozen decades to provide a clear example of the power of design to go beyond the immediate realm of the design practice and its outcomes. Walter Benjamin’s dialectical thinking may have been stripping away lies a society tells about itself by analysing urban realities and subjecting them to rigour but by so doing he stripped away lies at the time a pivotal moment in modern history. Society began its transition from a culture of production to one of consumption. Beneath the arcade’s greenhouse roof, the technical apparatus of the industrial society was used to furnish people’s minds with images of desire. Benjamin with his arcades project has taken the apparatus apart and described a new shopping precinct for an individual client, but the implications of his analysis are still being felt today.

When we consider the relationship of the home to the economy and ecology in general and broaden the concept of the home beyond a specific unit in an apartment block, the power of design to create the future is considerable. The long-term implications of design practice are a serious matter that requires serious analysis.

3.4.1 Theories examined in this chapter

In listing the elements that might form a framework for transforming design practice, it is crucial to track the theoretical foundations of that framework so they can be considered in future reviews of the usefulness of that framework.

Phenomenology/Existentialism – Heidegger and his idea of care being structural - design as care. Not only in its being but with things at hand or with things objectively present but in its being
in the world- being as in concerned with or taking care of them. Dasein takes care of being and time. Merleau Ponty’s phenomenology theory and subjectivity.

**Marxist Theory of Space/ social theory/spatial theory** – Henri Lefebvre developed a body of work on the relationship between capitalism, modernity and the city, the lack of meaning in ‘everyday life’, the importance of space as a means of social control. Although not aimed at architectural/ design discourse, his spatial has been included in the DF Interior program.

Others- Foucault and punishment and control ex Bentham Panopticon.

**Cultural theory** – Interior spaces signal 'cultural' clues about the individual's sense of self and are therefore rich sources of information to others about the individual.

**Ecological systems theory/oikos/dwelling** - Heidegger’s building dwelling thinking, He looks at the origins of the German word “bauen” – "to build" and claims that it has lost its original meaning of "being" in a certain place.

**Anthropocentrism** – It is critical to understand that we cannot fail to be anthropocentric, but there is a huge difference between being aware of our anthropocentricity and not being aware. We can only take responsibility for it if we are aware of it. The reason that our ‘anthropocentric’ behaviour is problematic is because it (combined with increases in population and development of technology) means that we are altering the biosphere (which we fundamentally rely upon for our survival as a species).

3.4.2 Managing the power of design

**Interiority** - we see things, we accumulate things, we experience things, and they become part of our interior landscape, our identity - presence and representation- What is externalised comes from inside of us - an external, internal projection.

Heidegger’s reflection on Soul (4.2.4) indicates the importance of “care” as a key element in any framework we might apply to the responsibilities of the designer. Reflections on the relationship that Australia’s First Nation people have to the land as space for which they care, and which also cares for them extends the concept of long-term responsibility to a permanence that is absolute. It also speaks to the interconnections between the different creative activities that form culture. If we are to place responsibility for cultural influences within the framework of responsibility for long-term implications that we assign designers, then we must ensure that the notion of culture is not isolated from the environment, the land and the spiritual aspects of
existence.

3.4.3 Identifying the requirements of the framework

All sections of this chapter highlight the influence of design on the identity of the owner or occupier of the designed object or space. The way that the user/consumer/dweller/recipient of our design sees themselves and, most importantly, how they see themselves in the world is a key component of the long-term implications of the design. This can be viewed in a cultural, psychological or spiritual frame. It influences our sense of self, our sense of the world and so our soul and our world view. The impact of our design practice on the recipient’s sense of self must have a place in our framework.

In addition to the interiority of the recipient, our design practice and decisions also impact on the standing of the recipient in that world. This may be tied to their interiority because their standing is influenced by their view of themselves, but it may also be a feature of the economic reality that flows from the design decisions we have made as practitioners. The economic implications of our design upon the recipient are also important.

Cultural and economic constructions determine a large part of our sense of self and our experience of the world, but all the political analyses of design indicate that power itself is also projected and shaped by design. This may be indirect, or it may, as Lefebvre explains, be that design of space is a form of social control. Certainly, the creation of the virtual world in which we increasingly exist is a purely designed space and exercises control in a variety of ways that we are only beginning to understand. The power relationships implicit in our design practice and decisions are a third element that needs to be considered in any framework that we develop through this study.

Having identified key elements that might form part of the framework for establishing responsibility for the long-term implications of design, this thesis will now build on that framework through an examination of housing and urban planning. It will examine the interaction between the design decisions of urban planners and social policy employed in various eras of Australian history to explore exploring the relationships between the ‘intent’ of designers and policymakers, the ‘outcomes’ of the solutions they designed and the ‘long-term implications’ of those outcomes.

That will in turn help prioritise those aspects of the framework that have the greatest impact and, independently, those aspects that are most critical in assisting the designer to understand the relationship between their intent and the long-term implications of the outcome.
CHAPTER 2 – DESIGNING THE CITY

As an Interior Design practitioner, the author is specifically interested in the transformation of Interior Design practice through the application of Design Futures theory. The extraction, refinement and application of a Design Futures framework to achieve this end emerged as an outcome of the research.

The examination of the Paris Arcades, Interiority and Oikos all suggest that the principles that influence long-term implications of the decisions made within a design practice extend across disciplines as well as forward in time. By its nature, Design Futures demands a broad view and so is cross-disciplinary (Fry, 2009). We have demonstrated the potential breadth of design impact through the examination of the Paris Arcades and their influence on the way that nineteenth-century women viewed themselves and hence influenced the way that manufacturers thought about products and urban planners thought about commerce.

The study of Oikos and the nature in which design constructs our experience of the home clearly demonstrates the relationship between design and the socio-political impact on the individual. Urban planning, like Interior Design, concerns the design of spaces that will be occupied and experienced by human beings. It differs from Interior Design in having an overt relationship with public policy and social engineering. Thus, there is a significant body of work assessing the long-term implications of the design decisions made in urban planning which lends itself to analysis that can be applied to the task of developing a framework to facilitate that assessment.

This chapter builds on the literature review to begin interviewing contemporary practitioners and dwellers/recipients. Thus, this chapter continues to capture an emerging framework and then explores the usefulness of that framework in capturing the responses of practitioners and recipients.

4.1 Australian Urban Planning

4.1.1 The economics of housing design

The contribution of this chapter to the overall thesis is to establish the need for design to meet the objectives of Design Futures, some practical examples examining the failure of traditional approaches that prove the urgency and necessity of taking such an approach.

Today’s cities are faced with the challenges of rapid population growth, urban sprawl, housing shortages, urban decay, increasing social segregation and the geographical, climatic, political
and economic displacement of the disadvantaged (Perolini, 2015). Common Ground attempts to overcome this historical trend through an inclusive approach.

Repeated cycles of government policy designed to address the problems of adequately housing the disadvantaged have only created new nightmares of exclusion. Outer suburban ghettos have replaced inner-city slums; satellite cities have failed to provide a solution and consumed millions in attempts to retrofit infrastructure and rectify poor planning; mixed land-use projects, designed to provide affordable housing, have become trendy and expensive: all these approaches failed to provide housing for homeless and displaced people let alone the more general challenge of rebuilding community.

The higher the social cohesion of a community, the more resilient it becomes (Pelling, 2003). The practical, rapid response of constructing housing in low-cost areas with the addition of a minimum of support services, therefore, exacerbates rather than alleviates the problem. Thus, design approaches to housing the homeless, displaced and low-income earners must expand their horizon and address the challenge as one of reshaping lives, reconnecting community, and providing an ethical and equitable “right to the city”.

In the last decade, academics and social movements have framed this social injustice to housing struggles in terms of “The right to the city”. “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” (Lefebvre, Kofman et al., 1996, p. 158).

The challenge then is to explore possibilities outside of pragmatic solutions and encourage a new urban, one that aims to deliver reconnected and inclusive cities that offer a renewed sense of place, purpose and future. Housing plays a central role in this social justice debate, and affordable housing initiatives are becoming more important globally. Relevant responses must start with that outcome in mind and work to overcome the obstacles that resist its delivery. The Common Ground approach meets a number of these requirements.

This chapter aims to contribute to the debate on urban social exclusion and offers a range of lessons and potential solutions that form an essential input into the development of future urban design approaches. The chapter focuses first on a theoretical review of urban theory before examining the “right to the city” in an Australian historical context leading to a discussion of Brisbane’s Common Ground. Finally, the chapter argues that the dialectic between urban policies, the shapers of our urban centres and the emergence of social initiatives need to be brought into alignment with the imperative of an ever-increasing divide.
4.1.2 Developing the urban

To understand the challenge facing inclusive approaches to urban design, it is essential to understand the forces underpinning historical urban development.

City planners have long explored the balance of power in the city, and the role played by capitalism in socio-spatial fragmentation. American historian, sociologist and critic Lewis Mumford contends that by the 17th century, capitalism had changed the balance of power of the Western city.

That focus on profit moved land from a system of feudal tenure (a long-term generational lease system with reciprocal duties between landlord and tenant) into a commodity, a means of making money. The disadvantage thus fell on the poor. As rents escalated, properties simultaneously fell into disrepair; landlords made no long-term obligations to tenants, overcrowding became rife, and so arose the first slum housing. On the outskirts of the city, farms coming out of tenure were divided into building lots, and by the early nineteenth century, indefinite expansion became possible within a laissez-faire approach to property ownership (Mumford, 1961, p. 474).

From the 1960s, new approaches to exploring urban fragmentation have drawn upon the work of Marx and Engels, where the capitalist city, in the accumulation and circulation of profit, produces class based upon social divisions (Engels, 1968). Scholars such as Henri Lefebvre, Manuel Castells and David Harvey, despite their theoretical, methodological and political differences, all share a concern to understand the ways which urban communities, under capitalism, are commodified.

In particular, modernist architectural thinking comes under intense criticism from Lefebvre, as working from an externalised perspective with little reference to lived experience (habiting—not simply inhabiting) (Lefebvre, Kofman et al., 1996, p. 152-154). Lefebvre singles out LeCorbusier, whom he describes as, “a good architect but a catastrophic urbanist, who prevented us from thinking about the city as a place where different groups can meet, where they may be in conflict but also form alliances, and where they participate in a collective oeuvre” (Lefebvre, Kofman et al., 1996, p. 207).

David Harvey is equally critical of the roles of architecture and urbanism in structuring the urban, blaming investment and economic reasoning, built upon a continuous cycle of long waves of investment: over accumulation, devaluation, loss of exchange value, buying at bargain prices an
back to investment again (Harvey, 2002). Further, Neil Brenner expands upon Lefebvre’s theories of urbanisation as an increasingly global phenomenon, no longer relating only to industrialised towns and cities, but as the “stretching of an ‘urban fabric’, composed of diverse types of investment patterns, settlements spaces, land use matrices, and infrastructural networks, across the entire world economy” (Brenner, Marcuse et al., 2012, p. 21).

4.1.3 Spatial Exclusion in Australia

Any considered attempt at urban planning, affordable housing or social design in Australia must address the challenges facing the homeless and disadvantaged in a rich country with a high proportion of home ownership and large amounts of open space leading to sprawling, low-density cities (AIHW, 2014).

Although “the bush” has defined Australia’s historic identity, today’s population is heavily urbanised, with approximately 88% of Australians now living in metropolitan areas. One of the wealthiest nations globally, Australia is no stranger to problems of poverty and exclusion. The disadvantage can be found in almost every city and larger regional centre (Department of Communities, 2011).

From the late 19th century, “progressive” planning movements have asserted the value of home-ownership and a suburban “Great Australian Dream” as a method of remedying social issues of densely populated areas. Following US and British trends, high-density housing was stigmatised as “slum” housing. Social reformers of the “Garden City” and “City Beautiful” movements were concerned with promoting health and vitality in urban living (Butler, 2012).

In 1909 a Royal Commission for the improvement of Sydney recommended the creation of garden suburbs for the working classes, resulting in the country’s first regional plan (Cox, Graus et al., 2011). Daceyville Garden Suburb in Sydney was the first and possibly most influential of these Garden Suburbs. It aimed to demonstrate a better standard of living with lower density, wide-open curving streets, no front fences, quarter-acre blocks, street planting and public open spaces.

Despite its initial positive reception, low-density living took on a new momentum following World War II, when all cities expanded dramatically. The new proposals were translated into local council by-laws with minimum allotment sizes and design standards, the inclusion of public parks and spaces, and covenants. Developers built new suburbs and satellite towns of private lower-income and public housing to meet the bare minimum of the social tolerance threshold (Butler,
According to Butler, “While the development of the suburbs can be attributed partly to the growth of industrialisation, it cannot be separated from the deeply anti-urban ideology that was prominent among the early planning reform movement and helped to normalise the ‘quarter-acre block’ as a spatial form maximising private space to the detriment of public space.” (Butler, 2012, p. 117).

In 1948 an Abercrombie-inspired satellite town model was proposed for Sydney’s Country of Cumberland Plan, with a plan of slum clearance in suburbs such as Surry Hills, Redfern and Balmain to be replaced by Corbusier-style high rises, a greenbelt at a 20km distance from the CBD, and beyond that satellite towns such as Campbelltown and Penrith. Although developed as a “balance” to counteract the growth of the city, the result is a bimodal population split between high-income commuters on the one hand and socially excluded residents on the other. As the demand for affordable housing intensified, the sites of Green Valley and Mt Druitt were chosen as low-cost public-housing estates based upon the Radburn, New Jersey open-public-space design of Clarence Stein. Unlike the British models, these suburbs failed to integrate housing with employment. That was exacerbated by the policy that residents were required to be low-income earners and eligible for public housing. Travel distances to work, reliance on a fast transport system or private vehicle, low employment rates and bad press soon led inevitably to social stigmatisation (Cox, Graus et al., 2011).

By 1968, the greenbelt had been abandoned due to rapid population growth. The Sydney Regional Outline Plan developed, based upon a European linear model of railway corridors with each corridor to be made up of a collection of new towns with primarily detached dwellings (Cox, Graus et al., 2011). Satellite towns such as Campbelltown, 50 km south of Sydney were reinvented with a town centre, employment prospects, university, hospital, public transport and a mix of private and public housing. However, the growth of the affordable outer suburbs soon outstripped employment, transportation and infrastructure, all of which remain a challenge in these areas (Cox, Graus et al., 2011).

In search of an answer, brownfield developments such as South Bank in Brisbane, Docklands in Melbourne and Pyrmont in Sydney became popular, promoting inner-city dwelling to reducing urban sprawl in the 1980s and 1990s. Again they were derived from international models such as the Docklands development in London based upon a high density “New Urbanism” (Cox, Graus et al., 2011). Developments with high-end apartments, restaurants, bars and entertainment located in prime inner-city locations proved extremely popular with an inner-city, gentrified middle-class; the disadvantaged populations, historically concentrated in inner-city areas, were pushed out to
peripheral suburbs. Today the post-war central suburbs are being rezoned and redeveloped with mid-level mixed-use development along public transport routes, once again escalating housing prices and relegating the less fortunate to the peripheries.

The repeated failure of these different models of urban development to address the structural problem of unequal “rights to the city” indicates that the core approach of providing additional infrastructure is insufficient.

4.1.4 The Ownership Axis

One challenge faced by any social housing approach in Australia is the intense desire for and encouragement of homeownership. Over the century-long history of the nation, this has led to public money being injected into incentives and support for homeownership and the cultural ideology of the “Great Australian Dream” (Jacobs, Atkinson et al., 2010). In the early decades of the 20th century, Australian governments promoted home ownership through state banks and war service home loans. In the mid-1930s, the Australian labour movement ensured that wage levels were kept above a minimum and marginal tax was kept low, further enabling and encouraging home ownership (Jacobs, Atkinson et al., 2010).

From the 1960s to 1970s, the policy appetite for public housing returned and high-rise, public-housing estates replaced inner-city terrace housing (Jacobs, Atkinson et al., 2010). At the time of construction (March 2003), these projects were seen as a cutting-edge solution to social issues. However, these housing models were ill-fated. The estates were soon criticised by residents and the public for unattractiveness and lack of social planning (Atlas and Dreier, 1994). They soon became associated with crime and low morale.

By 1978, the Commonwealth had greatly reduced the amount of funding for building and maintaining public housing (Groenhart, 2012).

“The result of dwindling funds was a shift in the role of public housing, from a mainstream option to marginal sector with a highly disadvantaged tenant base. By 2006, around 90% of tenants were either on welfare benefits or experiencing some other form of social deprivation” (Groenhart, 2012). Governments have thus turned to the private market to “fund the renewal of their housing estates through policies branded as ‘social-mix’” (Jacobs, Atkinson et al., 2010, p. 20-23).

This ideology of homeownership has created a unique population in Australian cities: the “renting poor”. Given that Australia’s public-housing sector is very small (5%) compared with its counterparts in other western cities, the private rental remains a robust part of the Australian
housing system. As a liberal market society, Australia places much faith in the market and is highly protective of individual property rights and thus of home ownership (Burke, 1999). The result has been an investment-based approach to managing rental properties that disadvantage the tenant in ways similar to the four centuries-old patterns described by Mumford.

The economic and political dimensions of housing and thus urban planning are the major focus of much of the theory in the space. To develop a framework that might explicitly highlight those elements of practice that influence these outcomes, we can explore the notion of the “Right to the City”.

4.1.5 The Right to the City

There are many more poor and disadvantaged households in the private rental sector than in social housing (Hulse and Burke, 2001). Studies show that anti-social behaviour, an increase in crime; social stigma, poor education and general dysfunction are all symptomatic of life in social housing (Morris, Jamieson et al., 2012, p. 1-21). Living in marginalised clusters can have the following long-term consequences: a gradual loss of confidence in the “system”, long-term unemployment, limited or no participation in active citizenship, the prompting of a sense of failure, rejection and shame is often passed down through the generations (Hulse and Burke, 2001).

The spatial distribution of the socially disadvantaged is evident in every Australian city. Clusters of deprived people and poor neighbourhoods are concentrated in fringe suburban areas. There is evidence that the disadvantaged living conditions are being passed from one generation to the next (Pawson and Herath, 2013).

The answer, then, comes from some mechanism that deals with the concept of “social mix”. So far, planning schemes, housing policies and other strategic approaches have failed to stop the growing concentration of disadvantage in Australia’s suburbs. Affordable housing is at the centre of the debate. Recognising the urgency, in 2008 the Australian Government released a White Paper on Homelessness, outlining policies on addressing disadvantaged citizens. A year later, the National Affordable Housing Agreement (NAHA) followed, complemented later by the National Partnership Agreements on Homelessness and Social Housing. These national agreements underpin the Queensland Housing 2020 Strategy. Launched in 2013, this strategy addresses Queensland’s social housing system and promises to bring it in line with current demands (Housing and Public Works, 2013) Consequently, Common Ground Brisbane secured part funding from the National Partnership Agreement on Homelessness. The Queensland Government, through the National Building Economic Stimulus Plan, provided the other funding.
The building is pioneering affordable housing and social inclusion in Brisbane and is adding to the discussion on the social mix as a case study.

The degree of freedom to choose where you live and to access parts of the city thus emerges as an important implication of urban planning practice and decisions. As well as the freedom of the individual to access the benefits offered by the city there is an implicit right to engage. The ghettoisation of social housing, for example, leads to problems specifically by the exclusion of its residents.

4.1.6 Individual houses

The housing situation in Australia is uniquely unsustainable, not just because of urban planning and socio-cultural attitudes to homeownership. The nature of individual housing also has a significant role to play.

- Housing affordability is at its all-time low,
- Mortgage debt is amongst the highest in the world and
- Around 60% of lower-income rental households are currently experiencing rental stress.

The roots of this housing-affordability crisis lie in the changing demographic make-up of the urban population. Projections of new households and dwellings for Sydney and Melbourne from 2012 to 2022 indicate that policymakers have not grasped the scale of housing requirements for a rapidly changing demographics. For example, the nuclear family is currently challenged as ‘a typical Australian home’ by sole parent families, step- and blended families, extended families, same-sex families, childless households, and single-dwellers, and yet, detached housing still accounts for over 70 per cent of new housing (Lasch, 1985). We have a changing demographic, but we still promote, market, and build houses for the nuclear family model. Planning is out of step with the demographics.

As Australian cities struggle to meet the housing demands of a changing and increasing population, they must also get ready to accommodate significant climatic changes while maintaining their liveability and functioning as an urban system. Climate change will not only challenge the built infrastructure of cities, but it will also impact people’s lives and livelihoods in unprecedented ways. At present, there is no coherent, adequate response to impacts of a changing climate. Individual households, government departments, public services and industry are currently responding in an inefficient and ineffectual ad hoc manner to threats caused by
extreme weather events, rain, winds, heat, fire, and flooding (Fry, Kinnunen et al., 2009). Australian cities need to become climate defensive. Thus, there are two threats to the livability of Australian cities: Housing affordability (caused by government policies encouraging speculative investment in housing as a commodity) and the threat of climate effects. Policy needs to be brought into alignment with both threats.

Australia needs to stop building housing at the fringes of larger cities in stark contrast to the demand for single households and families wanting to engage and connect with one another, build sustainable communities and live ‘smaller’. Australia needs a more versatile housing stock. This new housing-model must fundamentally respond to the changes that a new climate will impose on cities in coming years. Heat islanding, fire, extreme storms, increased drought, increased intensity of rain events and rising sea levels will have an unprecedented impact on urban centres. We need to build climate defensive cities. The appropriate response needs to be preventative, adaptive, social, economic, technical, and cultural (Fry, Kinnunen et al., 2009).

A studio project undertaken by undergraduate design students at Griffith University in 2015 investigated a different housing model for Australian cities. The brief for this model was to fill the gap between the current development model designed to gain maximum yield for the investor and the future model where liveability, sustainability, affordability, and community living are the core values. The project brief asked students to develop a concept, which could catalyse an industry change. By modifying a typical 80m2 two-bedroom apartment and turn it into a two-bedroom apartment, students had to explore housing models which encourage the sharing of spaces and infrastructure. The project explored rethinking the notion of dwelling in response to climate change and housing affordability.

This project sets explicitly out to satisfy the criteria of affordability. The affordability of any design outcome is related to its economic and political role. The democratisation of design is implicitly bound up with its price tag (Nightingale, 2019).

### 4.1.7 The Housing Situation

It is well known that the predominant form of a residential dwelling in Australia has historically been detached housing. While the total detached housing stock still accounts for over 70 per cent of new housing, multi-unit dwellings (semi-detached, townhouse, unit) are playing an increasingly significant part in the new home building market. An incremental increase in this type of residential dwelling has led to a total market share of about 25 per cent in 2014 (Planning, 2009).

This shift away from the Australian Dream of a quarter acre block for each family (originally
intended to allow them to be self-sufficient in food (Kellett, 2011) to higher density living is seen to be a significant part of the answer to improving housing affordability by increasing supply. It is clear, however, that it does not meet the requirements of a changing demographic or the challenges of climate change. A detailed study of the demographics shows that not only is there a drift away from the nuclear family but also the younger demographic is entering the housing market later by choosing to stay at home longer or enter the share-rental market.

Besides, an increase in life expectancy and a shortage of aged care facilities encourage baby boomers to stay independent of aged care for longer. This demographic now prefers to downsize to multi-unit housing, which is low-maintenance and still allows for independence (Dale and Murray, 2015).

Current, developer-driven planning laws don’t meet the demands and expectations of either of these demographic realities. Current planning laws favour new construction without only an extremely modest requirement to construct and maintain affordable housing stock. As a consequence, the majority of new housing is pushed out to city fringes, where land is cheap and facilities absent: the majority of housing is based on an outdated view of what people need.

Although, there is evidence that buyers are swapping the ‘traditional Aussie Dream’ for High-Density Apartments, [the housing market] is by no means reflective of today’s housing needs. As a neoliberal nation, Australia has a reliance on the housing market to accommodate the population, and limited direct intervention unless forced by politics. This has produced a chain effect significant policy failure (Beer, Kearins et al., 2007).

The effects of those policy failures include:

- Reduction in social housing supply
- Escalating waiting lists
- Rampant affordability problems in the major Australian capital cities
- Significant under-supply of housing relative to need/demand
- Poor quality of indigenous housing
- Overcrowding

Thus, the rapid construction of inner-city apartment blocks is not doing enough to alleviate the housing shortage, housing affordability and a push for more sustainable, well-built, prized and well-sized housing that builds community by encouraging shared-zones and eliminating unnecessary private space such as excess car parking.

Governance and regulation play a critical role in ensuring that the commercial development of
housing meets the social objectives that we have already identified as necessary to the designer.

4.1.8 The Effects of Climate Change on Our Cities

The changing climate demands new features of the built environment.

Climate change and the scenarios it is likely to create will have a direct impact on the built fabric of our cities, their suburbs and rural communities. Understanding and recognising the severity of these impacts will increasingly drive the change needed in designing and building structures. Ultimately, buildings will need to do more than protect against climatic conditions; buildings need to become climate defensive (Fry, Kinnunen et al., 2009).

An important feature of any future design is a reduced ecological footprint. Currently, Australia has one of the world’s largest ecological footprint per capita, consuming 6.6 global hectares per person. Australian homes are among the biggest in the world. In the past, the impact of our extravagant lifestyle has gone widely unnoticed, however, now that the effects are more pronounced, we are starting to respond. The value that Australian society places on materiality and land ownership over environmental and human growth contribute to climate change on many levels. This needs to change. ‘Environment Design Guide’ by Mark Snow and Deo Prasad provides a framework clearly outlining the ‘potential effects of climate change on buildings’ (Snow and Prasad, 2011). Figure 1 presents a partial list of the predicted effects of climate change on buildings. It includes temperature rise, intense rainfall and flooding, intense hailstorms, more frequent and more intense cyclones, severe bushfires and dangerous fluctuation in humidity. Additional to the list covered in figure 1 are sea level rises, prolonged periods of drought and firestorms. What isn’t explicitly made clear in the ‘Environment Design Guide’ is the effect of climate change on urban experience beyond the buildings themselves.

Individuals, communities, businesses and the environment will feel these broader effects. Many aspects of our lifestyle beyond the built environment will be radically different.
There is an urgent need for adaptation strategies that target social, psychological, economic, and physical processes. Many local governments have started to realise the importance of an adaptation strategy in order to redirect the actions of our community through education.

Widespread knowledge and personal responsibility of the causes of the risks, and effects will result in community resilience and flexible decision making in the future (Mitchell, 2011).

Implantation in the building and infrastructure phases needs to be actioned immediately. Architects, designers and builders, planners and other professionals alike will need to recognise that buildings will need to do more than just stand against climate change. They will need to become climate defensive. Fry in ‘City Futures in an Age of Changing Climate’, looks at how cities can adapt and respond to the unsustainable conditions they are now facing. He is calling for cities to become climate defensive. He argues that policymakers, architects, designers and engineers are just not currently grasping the implications. Fry specifies that we need to move to design structures that can defend us from extreme heat, cyclonic winds, rain, drought, floods and fire (Fry, 2014). Our current model of urban construction attends to the socially constructed wants and desires of consumers in a society that values the family home as an investment, housing as a commodity and places no value on community. The central role of capitalism, consumerism and the nuclear family has had ontological effects on our image and design of the city. We have a fundamental inability to realise that our consumption makes us the major contributors to our ecological disruption. The narrative of economic growth demands that we believe that our lifestyle is inherently geared towards the betterment of day-to-day life. Those attempting to promote an alternative model based on community-based economics, sustainable food production and local energy supplies are portrayed as unrealistic (DESA, 2008).

4.1.9 More Versatility in Housing Options
Australians live an enviable lifestyle. Australian cities are often perceived among the most liveable by a range of international studies, the ‘Economist Intelligence Unit Liveability Ranking 2010’, positioned four of Australia’s capital cities, including Sydney, in the top ten most liveable cities in the world ((EIU), 2018).

However, this liveability index is subjective. In Australia, the focus has been to measure the general quality of life in a very specific area. A broader look at the impact of our urban centres reveals unchecked urban sprawl, vast consumption of resources and despoliation of the environment, while the inner core deteriorates.

We have seen that this pattern continues, despite some transformation of housing structures over the last few decades: a staggering seventy-nine per cent of Australians still live in detached dwellings, around 12 per cent live in apartments and nine per cent live in attached dwellings such as terrace and duplexes (Murray, 2007). The provision of housing with their traditional and conventional layouts has changed little over the last 60 years.

This is despite evidence of extensive change to the typical Australian family model. The ‘nuclear family’ is almost non-existent in Australian society today (Saggers and Sims, 2005). The inability of the existing housing market to look beyond this expired phenomenon will be a significant roadblock in the process of innovation (Murray, 2007). The ageing of the population increased single-parent families, divorce, childless couples, migrant and same-sex families are just a sample of the types of people looking for more appropriate housing in modern Australia.

For an increasing number of people, living smaller is a deliberate decision made in full cognisance of the challenges we face as a society. Selfish reasons, such as the economic benefits of saving money on heating and cooling, living a more sustainable life with reduced debt and consequently lower demands on the family income are factors considered when contemplating downsizing. But apart from these practical and financial reasons, many reduce their environmental footprint as a conscientious choice. In some cases, mitigation of the future social impacts of climate change and the resulting environmental decay are also factors. The adoption of higher density living is a mitigation of the future increase in environmental refugees requiring housing in the cities around the world.

*Green Metropolis* by David Owen uses the example of New York City to show how high-density cities can be significantly more environmentally friendly than urban sprawl (Owen, 2009). This is mainly due to lower car ownership and the impact of reduced space in limiting excessive consumption (Owen, 2009). The proximity of local destinations and the lack of public car parks
mean that most residents walk or catch public transport to most places (Owen, 2009). Whilst urban sprawl may make residents feel greener it, in fact, increases their demands on the environment. The further you get from urban hubs, the greater the distance in car travel for seemingly trivial trips. Should urban sprawl continue unchecked, all remaining green spaces idolised by the very environmentalists condemning high-density city living will be overrun with motorways and other infrastructure necessary to support and connect the population (Owen, 2009).

There is another significant advantage. Not only do high-density cities protect the environment, they also encourage better communities with more vibrancy of day-to-day life. The residents of cities like New York have more access to a broader selection of activities meaning they have more human interaction and are reducing their energy consumption (Owen, 2009).

Australians actively need to work to promote a new residential ideal (Smith, 2011). The trend to larger homes and lower occupancy seems set to continue if nothing changes. The continuous over consumption of land, energy, and resources will soon result in the depletion of these resources and will result in increasing numbers of homeless people who require accommodation. The time required to apply adaptive practices is in direct contrast with the speed of building new housing and is thus discouraged by today’s time poor society (Smith, 2011). Design professionals, the professional group best positioned to re-educate the consumers who commission these new housing projects are often moderated in their creative options due to the pre-conceived notions and economic interests of their clients, the investors in property development, real estate agencies, finance organisations, home improvement groups, product manufacturers, homebuilders and décor retailer (Huddleston and Minaham, 2011). This broad coalition of interests constantly bombard homebuyers and renovators with images of the ‘ideal lifestyle’, further fueling the consumption of the unsustainable (Huddleston and Minaham, 2011). As this generation is chasing the ‘Great Australian Dream’ they are building the ‘Great Australian Nightmare’ for the generations to come (Huddleston and Minaham, 2011).

4.2 Common Ground

As a project specifically designed to tackle exclusion by separating the right to dwell from the commercial capacity to engage in the property market, Common Ground offers an appropriate case study for the implications of planning and design decisions on the lived experience of the people dwelling in the space. It is examined here in the context of the emerging framework to test the assumptions of the framework and inform their further development.

Common Ground, established in 2008, is Queensland’s first specialist supportive housing
tenancy and property management organisation. The organisation focuses on providing quality tenant outcomes for people who have experienced chronic homelessness or earn a low income. It attempts to tackle the problem of exclusion in a number of ways:

1. offer permanent, safe and affordable housing to the disadvantaged in the community
2. provide a vibrant community life within the building itself
3. extend that community life by engaging with and contributing to the surrounding neighbourhood
4. bring the surrounding community into the project through leasing commercial and community spaces

In short, the project attempts to shift the emphasis from the value of the property or infrastructure to the value of the service by valuing the benefits of integration above the cost of the project.

This chapter examines the degree of success in that endeavour and the lessons that have been learned. The methodology employed is semi-structured in-depth interviews, discussed in detail below. The reality is that the project is new, a post-occupancy review has not been completed, and there is little empirical evidence available to date. Three interviews were conducted as part of a larger project that presented visual and auditory elements in the form of an exhibition in September 2014.

4.2.1 Physical Infrastructure

Common Ground, in a partnership with Micah Projects, a community-based not-for-profit with a commitment to social justice, and a number of other key partners delivered a building on 15 Hope Street, South Brisbane, which houses 146 people in single units or studios. Fifty per cent of tenants were chronic homeless with the other 50 per cent on a low income (Housing and Public Works, 2013). The project offers permanent, safe and affordable housing to the community. Furthermore, the concept provides a vibrant community life both within the building, and in engaging with and contributing to the surrounding neighbourhood (Common Ground, 2013).

The building is located on prime inner-city land, across the river from the CBD, adjacent to the city’s arts and cultural precincts at South Bank, with direct access to public transport. The project is unusual in that it results from an innovative partnership between federal and state governments, business and community. Funding for the building was provided by the Australian Government and Queensland Government, under the Nation Building Economic Stimulus Program and the COAG National Partnership Agreement on Homelessness. That Stimulus Program was a high-level policy decision to invest billions in infrastructure as a response to the
global financial crisis. As such, it was a unique opportunity to create a housing project outside the accepted norms of urban planning and design.

Construction company Grocon offered its services for the project on a not-for-profit basis, as did many other participating businesses. Nettleton Tribe (architects, interior designers, master planning and urban design) were awarded the tender to design and document the project.

Combining 146 single bedroom and studio residential units, breezeways, common spaces, art and computer rooms, rentable conference rooms and retail tenancies, the top floor also houses a fully commercial training kitchen with an extensive rooftop edible garden and relaxation areas. The building’s foyer is complete with a fully staffed concierge desk, lounge areas and a grand piano for use by the tenants.

In terms of ongoing support, Common Ground Queensland Ltd provide the ongoing tenancy management for the project, while Micah Projects Inc. provides 24-hour on-site support services for tenants (including encouraging independent living, vocational training, employment and education and access to health professionals). Both of these community organisations, as members of the Australian Common Ground Alliance, were actively involved in the inception, development and implementation of the project (Micah Projects, 2013). Rent is based upon individual tenant income and is charged as a percentage, which accommodates flexibility in cases of loss of income or reduced working hours.

4.2.2 The Intended Use of the Facility

One interviewee commented that Common Ground was designed to be a community asset. There are many rentable spaces within the facility, including conference and function rooms that the community is now starting to use. Although this was slow to develop, the bookings are steadily increasing.

The concept had derived from research and case studies of similar projects, which saw the benefit in bringing the community into the building. The benefits were twofold. They allow for the establishment of mixed communities to establish a balanced neighbourhood, where both sides can benefit from each other. The second was to alleviate some of the stigmatisation, particularly at the beginning of the project. This was achieved by showcasing the excellent facilities the building offers, creating the possibility for tenants to mingle and play the grand piano, to enjoy the first-class facilities, the security, the tastefully designed spaces and the amazing vistas of river and city.

One interviewee stated that the mixing interrupts patterns of social segregation. Micah Projects
agrees that mixing prevails anti-social conduct and dependency. This thinking is in line with the research and underpins the view that new housing developments should have a diversity of affordable homes.

All three interviewees praised the amenities facilities the building offers to its tenants (cooking facilities, computer rooms, shared spaces).

“By allowing tenants to gain some skills in the safety of their own homes, provides them with the necessary skills to confront the ‘outside’ world, a place they have been cut off from for a long time”. Two interviewees mentioned a lack of confidence in their ability to find employment. “When it comes to applying for jobs, especially the long-time unemployed tenants worry about their ability to fit in and to sustain a job”. One interviewee made reference to the empty commercial tenancies on the ground level. Originally earmarked to house a medical centre, the building has failed to secure a tenant in its first two years of operation. “If I was going to do this again, I would invest in the whole concept. Funding needs to be put into getting the commercial tenancies up and running rather than leaving this for a later stage” (K. Walsh, personal communication, August 20, 2014).

4.2.3 Measures of success

The building, on a site that has historically been associated with Brisbane’s homeless, is surrounded by high priced inner-city living. The philosophy of creating a social mix, rather than pushing the marginalized and those who had previously been sleeping rough out of sight to the suburbs has met some challenges. Attracting health care and community care organisations to the lower floor retail spaces and utilising the building as a community asset has been slower than hoped. However, there has been a gradual increase in bookings of the rentable conference spaces and commercial kitchen/rooftop asset, which, Micah is confident, will increase in the future (K. Walsh, personal communication, August 20, 2014). By making public spaces available for use by the larger community and business sector, it is hoped that the socio-spatial divide and any remaining stigmatisation associated with the building’s tenants will diminish.

All interviewees shared a concern for social exclusion. In fact, there was a strong perception that social exclusion is growing worse in Brisbane, suggested by the increasing demand for housing in Common Ground. All interviewees stressed the importance of building a strong relationship between Common Ground tenants and the neighbouring community to alleviate exclusion and ease the transition from years of isolation and dysfunction to a future of purpose and hope. In line with the literature review, all interviewees referred to the enormous challenges the project had to overcome by establishing social housing in an area of Brisbane where real estate prices are high.
One interviewee mentioned that on several, he saw Common Ground tenants struggling to justify to other residents in the area why they can afford to live in an area where the rents are above the average. The same interviewee also observed that it had initially been difficult to change the perception that the public and community had of the Common Ground tenants. He noted that there is now a shift toward valuing diversity and community inclusion.

All interviewees agreed that a complete culture change is needed to transform the housing situation in Brisbane. One expected the situation to get worse as the aging of the population increased the rates of homelessness and poverty. Another commented that while projects like Common Ground have improved perceptions of the marginalised and disadvantaged, such projects only treat the symptoms but not the cause. In his view, many of the symptoms of social disconnection can and should have been remedied much earlier. However, in his opinion, the present social, economic and political structures preclude early intervention.

Fixed social norms were an area of concern for all interviewees, which they thought was one of the main enablers of stigmatisation. A lack of public understanding of the effects of homelessness, disadvantage, disconnectedness and stigmatisation explained why some of the tenants of Common Ground felt different and excluded. Everyone insisted that problems of acceptance of the new neighbours had been anticipated but that the advantages of staying local and being close to support services outweighed the challenges foreseen. One interviewee described the current tenants of Common Ground as interesting people who livened up the area. Many of them were artists or musicians, and the local hospitality businesses enjoyed their patronage.

It was generally agreed that the South Brisbane community in the vicinity of Hope Street supported Common Ground, but there were always going to be opponents. Karyn Walsh commented:

“This was always going to be the case. You can educate people, and you can hold many community meetings but there are always people who lack empathy and who can’t envisage the positive contribution the new tenants could make. The challenge, I think, is getting people on side in an inner-city location where prices are high. What are the implications of this for the rest of the community? Is it fair that some people pay 800 dollars a week and others only pay 120 dollars for the same thing? These were issues floating around, and it created quite some debate. But we really wanted and pushed for this location because we felt that people had lived in the area for a long time and had already faced being displaced from the many hundreds of units being built in this area. Why not include some that were affordable and cater to people who had actually lived
in the area so they could, in fact, stay in the area” (K. Walsh, personal communication, August 20, 2014).

4.2.4 Monitoring the success

The building is in its second year of operation, and a post-occupancy evaluation has yet to be conducted by the State Government. Two interviewees said they found Common Ground an excellent initiative for social inclusion. However, there was some criticism about its future success and concern was expressed about the fairness of the selection of tenants. One interviewee was concerned that the waiting lists to get a place in Common Ground are long, and disappointment was expressed at the selection process of choosing tenants.

“Some of the real hardship cases seem to fall off the radar. Maybe this is because they disappear and are just not around when the waiting lists are updated or maybe they are not considered ‘suitable’” (Interviewee 2, personal communication, August 5, 2014).

One person said that the selection process is very complex and might appear unfair to people who don’t have the full picture. She agreed that it is disappointing that the organisation can’t offer more places, as the aim is to make the living conditions better for all their clients.

“Common Ground was just one initiative and much more need [to be established] to move forward the agenda of closing in on social exclusion” (K. Walsh, personal communication, August 20, 2014).

One interviewee commented that while mixed neighbourhoods are nice to work in and live in, their “neighbourhood effects” don’t do much to help the poor escape from poverty. A second interviewee agreed that simply “allowing” the poor to mix with the affluent does not necessarily generate social and economic equality.

“We might be accepted, but we still don’t get the same chances. We look different, we speak differently, and we are different. Just because we live next to them does not change the fact that we are different. I like living here, it is a step towards becoming independent and able to live my life again, and I was one of them outside many years ago, most of us were. However, it’s like living in an area with an engineered social character. But living here also means that things are more expensive than in outer poorer suburbs” (Interviewee 2, personal communication, August 5, 2014).

While the real success can’t be determined until some formal evaluation has been completed, all interviewees agreed that the architects, planners, designers and others had created a building which suits the character of the site and its tenants. Although Common Ground is a success from...
a design perspective, one interviewee thought that there was no need to replicate it.

“Any future similar buildings need to be designed to be site-specific. What worked here on Hope Street might not work somewhere else. I believe the design team did an outstanding job in working with all the stakeholders in creating the vision for a building that became home for people who have been socially excluded for many years or who have been living in chronic poverty and poor living standards” (K. Walsh, personal communication, August 20, 2014).

4.2.5 Reaping the Harvest from the Common Ground

In summary, the socio-spatial exclusion is a characteristic of urban development driven by the commodification of housing as a facet of the property market. The Common Ground project offers an unusual opportunity to examine alternative approaches and solutions that reverse this trend.

Several factors have contributed to the fragmented urban landscape in Australia, creating pockets of disadvantaged neighbourhoods. A particular feature of the Australian situation is an idealisation of homeownership, which has created a gap between poor and rich, perpetuating a housing situation based on socioeconomic classification.

Against this backdrop, this chapter examines Lefebvre’s “right to the city” which describes the development of the “capitalist city” and its negative effects for its inhabitants and the struggle for affordable spaces in all major Australian cities. High rent, a weak social system and a lack of public housing stock have forced low-income individuals and families to neglected neighbourhoods in the outer suburbs. A lack of social mix has meant that clusters of marginalised groups form large neighbourhoods of disadvantage, suffering from stigmatisation and social exclusion. This undermining of the social cohesion of cities creates long-term problems for residents and demands action on multiple levels.

In an attempt to reverse the development of urban exclusion, some cities have started to reclaim the right to influence urban life, driven either by emerging government initiatives or by the excluded, marginalized or discriminated communities themselves. This paper focuses on one such approach to urban regeneration and renewal and the redevelopment of the social and built environment.

Common Ground is a global movement that has started to make a positive impact on our socio-spatial disadvantaged cities. Brisbane’s Common Ground project has emerged as the unusual combination of a government looking to invest and a community ready to develop a creative response to these problems. A network of commercial organisations has participated in
designing, developing and testing a model for future development.

Among the lessons learned are that the community in general and the commercial sector, in particular, must be engaged early and thoroughly to prevent the exclusion and isolation from continuing, just on a reduced scale. Design professionals, policymakers and community need to re-think the delivery of solutions for the disadvantaged as part of the delivery of services for the whole community. This is a major modification of current approaches.

Further, the support programs for education, employment and health must be integrated with the design, development and implementation. They must also be implemented across the broader community to ensure that the social-mix is vibrant and engaged rather than post-hoc, ad-hoc and difficult.

A significant part of the challenge is that people’s perceptions of community ownership of and engagement with assets and services such as those included in South Brisbane’s Common Ground run counter to the capitalist notion of the urban, of property and service delivery.

Design professionals, policy makers and community need to re-think praxis, encourage post-capitalist cities and create new forms of engaged life throughout the city. The use of planning and architecture for marginalisation and socio-spatial segregation must be re-appropriated. These tools should be used not to segregate people but to construct new knowledge, new urban visions, social inclusiveness and commonality in difference.

4.3 Authenticity and the City

Studies of authenticity in urban planning have arisen out of attempts to understand and measure the impact of gentrification. This study specifically set out to examine the work of other practitioners and how they measured these long-term impacts in the context of urban planning. The emergence of the Authenticity Framework as a means of collating and comparing the results of this examination and testing revealed the power of frameworks as a tool and the notion of refining this framework to the more general Design Futures framework that is the subject of this thesis.

Authenticity in the context of urban space is an innate quality of the space that emerges from the use and lived experience of the people in that place. A local market, a set of local shops with particular characteristics that identify the locality or a meeting place like a local pub are all examples of environments that the local population identifies as being part of their culture.

Lefebvre identified the local pub as authentic because it is the place “where ideas are generated,
and movements started” (Lefebvre, Kofman et al., 1996).

The notion of urban authenticity is associated with the semiotics and symbols that define that space giving it its particular identity and allowing those who populate it to identify their ownership of it. Thus, someone may be proud to live in an area that has federation housing, the cycling path along the waterfront and a wide range of organic food shops. This combination of characteristics defines the culture with which that person identifies.

Many of the positive values attributed to urban-dwelling stem from authenticity and the converse are also true: many urban problems can be understood as stemming from a lack of authenticity. Jane Jacobs was one of the first social urban thinkers to explain authentic characteristics as a requirement for solving social problems that were evident in inner cities, such as poverty, crime, and congestion (Jacobs, 1960, Jacobs, Atkinson et al., 2010).

Jacobs urged inner cities to be interconnected by short blocks, to be informally monitored by the proprietors of the street, and to preserve small businesses and old city buildings. She believed that liveliness, high activity, and multiple-use spaces would provide the solution to inner-city problems. Her ideas raised awareness of methods by which inner cities could be developed in order to function successfully, what characteristics are necessary for people to enjoy their urban experience, and what specific urban dynamics need to exist to keep community members safe effectively.

Two decades later, the values that Jacobs had identified as underpinning the authentic culture were recognised by developers as having the potential to make inner-city areas attractive for the middle-class consumer. This is described by Kennedy and Leonard in their definition of gentrification, “the process by which higher-income households displace lower-income [households] of a neighbourhood, changing the essential character and flavour of that neighbourhood (Kennedy and Leonard, 2001).

To a certain extent, this gentrification is the commodification of the authentic communal values that emerge before that gentrification taking place. The cultural values emerge from a confluence of diverse groups of people in an unusual or new combination. Following gentrification, though, inner cities were no longer filled with exciting groups of people, but rather a homogenised group, happy to pay large sums for their urban experience.

Gentrification is also an expression of economic inequality. “Gentrification has gathered substantial momentum in the discussion of urban inequality … and [it] is a vivid neighbourhood-scale expression of a broader process of growing social and economic inequality that has
become systemic in cities over the past half-century" (Kennedy and Leonard, 2001).

This commodification of culture is consistent with the commodification of property described in the author’s paper Rights to the City, (Perolini, 2017). That paper examines the primacy of economic growth as a driver for government policy and the commodification of land values.

4.3.1 Defining the successful city

Historically, cities have advanced human creativity by offering refuge, communality and opportunity. Kotkin put it this way. "For 5,000 years or more, the human attachment to cities has served as the primary forum for political and material progress. It is in the city, this ancient confluence of the secret, safe and busy, where humanity’s future will be shaped for centuries to come.” (Kotkin, 2016).

We might, then, consider a successful city as one who provides those elements that support the flourishing of human culture. Most government policy focuses on economic indicators.

Singapore’s Professor Tommy Koh writes, “A successful city is one which adequately provides for its citizens’ basic needs – housing, jobs, an efficient transport system, affordable health care, good schools, a safe environment and a healthy environment. A city with many homeless people and people living in slums or on the street is not a successful city. A city with many unemployed citizens, especially among the young, is not a successful city” (Koh, 2018).

Of course, there are other elements of urban culture that render a city ‘successful’. “Some cities are more equal than others – some have a stronger identity, are better designed, some are more welcoming, others more stable, better provide economic opportunities, some have better equality for its citizens” (Koh, 2018).

These measures are considered an economic advantage. Cities are rated by media and business intelligence organisations, ranging from The Economist ((EIU), 2018), Monocle (Lozanova, 2017) and Mercer (Mercer-Global, 2018). Australian cities regularly feature in these surveys (Kalnins, 2011). Common factors on which Australia does well include security, space, green space and transport infrastructure.

The premise of this article is that these measures are of limited use in valuing authenticity. Singapore is an example of a city that meets all the criteria (eg rights to housing, greenness, cleanliness, safety i.e. it is successful) but is not regarded by many designers as necessarily
authentic. This differentiation raises the question “what is the difference between successful and authentic?”.

Each of these commercial organisations, like the government departments that promote the virtues of a particular city and the philosophers arguing from the concept of an idealised city, uses a set of criteria for determining the relative benefits of a particular city. A number of frameworks for measuring the success of cities have emerged each focused on different aspects.

One wide-ranging comprehensive survey is Price Waterhouse Cooper’s Cities of Opportunity report (PWC, 2016). It identified 61 variables that underpin the success of the cities as the outcome of analysing thirty cities as part of a longitudinal study which adds and refines its variables each year. 15 of the 61 variables in this data set were new in the 2016 study, and different chapters of the study emphasise different variables. The study does not attempt to extract a framework or identify key signifiers of success, instead, it analyses what variables contribute most to particular cities, or particular characteristics of the cities in the study.

The Circles Project is a method and approach of analysing planning and governance issues to address challenges holistically. It is coordinated by Metropolis: The World Association of Major Metropolises; the Institute of Culture and Society at Greater Western Sydney University; the Senate Department for the Environment, Transport, and Climate Protection Berlin (Metropolis, 2016). The group’s Circle for Social Life in 2015 published a book by Paul James, Urban Sustainability in Theory and Practice, with Routledge Press; and then in 2016 published a summary the results that it called Principles for Better Cities. This identified four key principles that underpin the quality of life in a city:

1. ecological sustainability,
2. economic prosperity,
3. political governance and
4. cultural engagement.

Each of these has seven subdomains in Metropolis’ summary. The Greater Nanaimo Chamber of Commerce, British Columbia (GNCC) summarised these into 12 key elements of successful cities (GNCC, 2014). As this reduced list forms a workable subset of 28 criteria established by Metropolis, it is used below as the basis of a framework for analysing success in urban planning.

4.3.2 The 12 key elements of successful cities

This paper will summarise each of the 12 elements of that framework and then use it to compare the literature review and case studies of authenticity. This is the first step to examine a potential
set of criteria as the basis of a framework with a theoretical context and tested practically against real-world applications.

3.3.2.1 Connectivity

Connectivity of a city is the character of the infrastructure and planning that facilitates efficient internal and external movement of people and goods while minimising detrimental environmental and social effects. The addition of infrastructure to facilitate movement in the form of bridges, tunnels, public transport, freeways etc. is widely studied and well understood. The disruptive nature of additional infrastructure on local communities is seen as a competing requirement of the city overall and so urban planners and the governments that commission them consider additional infrastructure as a juggling act, balancing competing needs of maintaining the integrity of localities on one hand while connecting the larger metropolis on the other. “Each city faces its own challenges—organising the system so downtowns, expanding metropolitan areas, and customers all feel well-served” (PWC, 2016, p. 50).

3.3.2.2 Culture of Collaboration

Defined by GNCC as “support for respectful and cooperative interdisciplinary processes and varied views to achieve a common purpose” a culture of collaboration addresses the disruptive nature of change by encouraging cross-pollination of disciplines. Service providers addressing mental health issues tend to congregate in the inner city around homeless shelters. Building affordable accommodation in outer suburban areas without taking that into account is disruptive on a number of levels and creates ghettos of the mentally unwell whose condition is aggravated by their enforced isolation (Perolini, 2016).

3.3.2.3 Culture of Innovation

The promotion of innovative ways of addressing emerging local and global economic, environmental and social challenges allows organisations to think outside the square and avoid some of the problems of disruption and the ‘wicked’ problems of urban design.

“Top-notch educational infrastructure, transnational hubs of technological innovation, and global gateways are all part of one integrated human, financial, and industrial structure that marks those cities that should flourish over the longest time.” (PWC, 2016 p41).

3.3.2.4 Distinctiveness

Capturing the sense of place by celebrating geographic location in the planning and design of the city means that the essence of a city and its culture is visible and is amplified. Cultural
stakeholders are rewarded and honoured. The unique contribution that they have made becomes an attractor, improving the lives of residents by bringing money into the local economy. Because the urban culture is respected, it is less likely to be destroyed by its commodification.

3.3.2.5 Entrepreneurial Governance

By “fostering creative and visionary leadership within administrative, elected and volunteer areas a city” (GNCC, 2019), cities promote excitement and creativity without creating the social inequities that generally flow from unregulated development. Nurturing innovation and good governance at the same time is an emerging discipline that is only beginning to move from the world of high-tech start-ups to design in general.

3.3.2.6 Master Planning and Community Design

Advocacy for a clear vision and implementation of a high-quality built environment is a requisite of the sort of governance referred to in the previous element. Without guiding principles and underlying values, development can be led by narrow interests that do not contribute to the overall or long-term good. These generally will be the narrow interests of developers in short term profits (Perolini, 2016) but there are many examples of development in a specific direction that appeared beneficial in the short term but had negative long-term consequences. The emphasis on suburban development built around the car in post-war America could be said to have led directly to the collapse of the inner-city that became an urban planning nightmare across US cities by 1990.

3.3.2.7 Quality Education

The power of education in creating synergies across educational delivery models and with local and regional governments can be used to embed and promote urban cultural values. More importantly, the long-term value of education is that it enshrines the principles of human-centered design into urban planning, ensuring that the impact of planning on the population of the city is a primary concern. “Balance works best in today’s complex urban ecosystems.

Education, transit, health, economics, and governance all have to line up for a city to lead” (PWC, 2016, p35).

3.3.2.8 Quality of Life

In fact, the very recognition that a high quality of life attracts investment, people and innovation is at the core of this list of key elements that make a successful city. While this is implicit in the commercial ratings such as “World’s Most Livable City” many theoretical urban planning
frameworks focus on the plan itself and the infrastructure it represents rather than the quality of life of the residents living in the planned space.

3.3.2.9 Livability

The promotion of high-quality urbanism, urban spaces and places that create attractive urban living formalises the notion of Quality of Life, discussed in the previous Key Element and elevates that formal concept, ‘Livability’ to a measure that must be taken to account in planning.

3.3.2.10 Social Conscience

The recognition that healthy cities are socially and culturally diverse and require a supportive social network is an outcome of this human-centered design approach. This informs the second key element of cultural collaboration, ensuring that planning functions are well integrated with social support agencies such as help, housing, income support and commercial actors such as entertainment and hospitality providers, property developers and industrial companies.

3.3.2.11 Sustainability

A commitment to meaningful economic, environmental, and social sustainability in policy and action is required to ensure the longevity of any planning. These are not simply “nice to have” values that can be tacked onto the end of a planning process to ensure that it passes external criteria, these are central values, critical to the creation of a meaningful culture that is good for its participants. “The urgency of sustainability to cities (and, of course, to the world) demands everyone’s best efforts” (PWC, 2016, p. 62).

3.3.2.12 Vibrant Economy

The most visible measure of success is an economy that has resiliency, builds on local strengths and promotes community well-being. By integrating economic success with cultural, environmental and social success, effective urban planning ensures that profit is not placed in opposition to cultural values and that a vibrant and sustainable city is the outcome.

4.3.3 Theories of urban authenticity

This section combines a number of theories to establish a framework to define authenticity in terms of the Urban Environment.

Synthesising the literature review in the context of the framework of successful urban planning
provides a valuable tool to flesh out the relationship between authenticity and urban culture as we work through the topics addressed by subsequent chapters, we can build up and refine this framework. The result should identify strong relationships between existing and emerging practice in some areas as well as other areas that require careful thinking and further research to establish a solid basis on which to build authenticity in urban planning. For the purposes of this thesis we will refer to the 12 criteria and the items that we map onto it as the “authenticity framework”. This will then be used as one of the building blocks for the creation of the framework that is the subject of this thesis.
<table>
<thead>
<tr>
<th>Key Element</th>
<th>Debord</th>
<th>Lefebvre</th>
<th>Baudrillard</th>
<th>Zukin</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connectivity</td>
<td>Connectivity must be real. The city must be experience d not just viewed</td>
<td>Connectivity must connect not alienate people</td>
<td>Infrastructure must make real connections</td>
<td>How do people behave in their locality?</td>
<td>The organism of the city needs flow, but that metro flow cannot be at the expense of the wellbeing of the organism at the local level</td>
</tr>
<tr>
<td>Culture of Collaboration</td>
<td>Respect individual experience</td>
<td>Ditto for collaboration</td>
<td>Solutions for people not systems</td>
<td>The local must be part of the planning process</td>
<td>Authentic collaboration must include the individual and the local</td>
</tr>
<tr>
<td>Culture of Innovation</td>
<td>Avoid tendency to create spectacle</td>
<td>Seek innovative ways to break down silos</td>
<td>-</td>
<td>Find innovation on the street. Do not implant from above.</td>
<td>Innovate the innovation process around human centred design</td>
</tr>
<tr>
<td>Distinctiveness</td>
<td>Ditto</td>
<td>Celebrate uniqueness and cultural richness to avoid isolation</td>
<td>Celebrate experience not slogans</td>
<td>Ditto</td>
<td>By definition is local. Protect individual contributors</td>
</tr>
<tr>
<td>Entrepreneurial Governance</td>
<td>Ditto</td>
<td>Manage holistically</td>
<td>Measure outcomes based on individual experience</td>
<td>Protect the local. Avoid prejudgment.</td>
<td>To govern for authenticity manage holistically, build from the bottom and protect the local</td>
</tr>
<tr>
<td>Master Planning and Community Design</td>
<td>Respect individual experience</td>
<td>Ditto</td>
<td>Promote experience not slogans</td>
<td>Ditto</td>
<td>Ditto</td>
</tr>
<tr>
<td>Quality Education</td>
<td>Embed the difference between spectacle</td>
<td>-</td>
<td>Embed the difference between symbol and experience</td>
<td>Respect the local</td>
<td>Embed human centred design principles in elementary education</td>
</tr>
<tr>
<td>Quality of Life</td>
<td>Respect individual experience</td>
<td>Celebrate cultural richness</td>
<td>Measure and avoid alienation</td>
<td>Find local values do not impose from above</td>
<td>The actual experience of people in their locality matters most</td>
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<tr>
<td>Liveability</td>
<td>-</td>
<td>ditto</td>
<td>-</td>
<td>Measure using local values</td>
<td>Identify KPIs based on individual joy</td>
</tr>
<tr>
<td>Social Conscience</td>
<td>-</td>
<td>Measure and avoid alienation</td>
<td>Measure and avoid alienation</td>
<td>Respect the local</td>
<td>Measure and avoid alienation, Protect to local</td>
</tr>
<tr>
<td>Sustainability</td>
<td>Spectacle short lived and wasteful</td>
<td>Ensure inclusion as an element of social sustainability</td>
<td>The hollow is not strong. Build resilience through authenticity</td>
<td>People will adapt. We impose values on communities at our peril</td>
<td>Incorporate values but allow local interpretation, prioritisation and implementation</td>
</tr>
<tr>
<td>Vibrant Economy</td>
<td>Long-term Profit flows from genuine activity not artificial event</td>
<td>Mange for inclusion</td>
<td>Ditto</td>
<td>Allow communities to flourish. Do not govern them</td>
<td>Communities will flourish if allowed. Support and nurture while protecting not controlling.</td>
</tr>
</tbody>
</table>

Table 1 Mapping the literature to the 12 Authenticity criteria
4.3.4 The importance of authenticity in culture

One aspect of culture that is important to identify in terms of exploring its authenticity is its dual nature as both a record of human experience and a creator of it. The cultural activity takes what is familiar to people and represents it to them so that they can enjoy it in a heightened manner and pass it on. “Culture provides knowledge about our existence as inhabitants of our cities and as citizens of the world”. (Duxbury, Pascual et al., 2014) Thus, culture is what makes us human and what advances our humanity. Every analysis of human society and development uses cultural activity as evidence of our civilisation. The challenge in determining authenticity is to identify what representations are empowering and positive as opposed to those that are reductive and alienating. Good satire might highlight the foibles of a class or a community and thereby promote improved social equity or other desirable values.

Crass humour may simply be insulting, ridiculing a particular class or community based on their foibles and thereby promoting hate speech and disempowerment. To some extent, the intent, or the impact of a cultural act, has a role to play in defining its value as authentic. “Culture is a key local and a key aspect of the social fabric, promoting cohesion, conviviality and citizenship” (Duxbury, Pascual et al., 2014).

So, the way we understand ourselves in the modern world relies on things that we consider authentic. Studies of interiority reveal how we build our sense of the individual by defining how we interact with the culture that we encounter (Perolini, 2017).

In contrast, culture is packaged for consumption and is commodified for profit. Both Baudrillard and Debord discuss the alienating impact of this abstraction. We crave the real but are immersed in the fake (Baudrillard, 2019) (Debord, 2012).

So, we see a tension between the acknowledgement that culture can be the collection of existing, authentic artefacts and the profit-driven capturing of that desire to collect and associate.

One aspect of this tension is driven by the notion that culture is created artistically and so that the original is authentic. In reality, though, many artists acknowledge that the very act of creativity is a borrowing, every inspiration a theft and every creation an acknowledgement that we all build on the shoulders of giants. Thus, we can separate the problem that authenticity might have something to do with originality or creativity from the observation that authenticity involves the thorough engagement of the individual with a culture they actually identify as being theirs. The key is not that it is original, but that they feel ownership.
The challenge is therefore to recognise the state described by Baudrillard in which “experience becomes packaged so that we are on the verge of being unable to recognise the real” (Baudrillard and Levin, 1988).

An authentic cultural experience provides an exciting and creative opportunity to organically connect as opposed to the experience of alienation described by both Baudrillard and Debord. The active participation of people in local cultural activities improves neighbourhood liveability and the quality of life for its residents. It contributes to the well-being and offers opportunities and options. In terms of associating that alienation with a framework, we might describe the factors leading to that negative experience as belonging to cultural experience or artefacts that are fake, exclusive or forced.

The next section of this paper deals very specifically with this issue, highlighting the findings of this study, consistent with Zukin and Jacobs, that authenticity emerges from lived experience rather than creative integrity or intent (Zukin, 2009) (Jacobs, Atkinson et al., 2010).

4.3.5 The importance of urban authenticity

The city is both an expression of our culture and a generator of it. The city is a cultural artefact as well as a site of cultural manufacture. When the city is authentic, the culture is authentic. The more a population shares in that authentic culture, the more vibrant the culture and the richer and stronger the city (Jacobs, Atkinson et al., 2010).

To a certain extent, then, we can take the observations made about authenticity and culture and explore their dimensions in urban planning and the analysis of urban culture. We can then map the role of authenticity onto our framework of what makes a city successful.

The author has explored in previous chapters the identification of an individual with the culture in which they live through an analysis of interiority. The contribution that an individual interiority makes to the culture generally is, in large part a measure of the resonance between the individual and the urban environment.

The arcades of Paris came to define that city and made it an international destination because they successfully resonated with the Parisians for which they were designed. The creation of the arcade culture involved the initial design of the arcade and the response of the customers who shopped there. It was this resonance, itself intense cultural feedback that developed the culture leading its evolution that, in turn, developed an international reputation and further progress of the culture itself and the broader reputation of Paris (Perolini, 2014).
Translated into the American environment under the guidance of architect Victor Gruen in conjunction with Walt Disney and Buckminster Fuller, this consumer experience was transformed into the indoor mall that has dominated urban commerce for the second half of last century (Fuller and Meller, 1972).

The dual role of culture also further blurs the distinctions between original creativity and collective association. A large number of theatre-goers or music fans may exemplify and express an ethos developed by a smaller number of creative artists. Both the artists and the fans contribute to the creative act. It takes a village to raise a child and it takes a city to provide the life support system for a major art movement.

The elimination of originality as the source, or measure, of authenticity helps resolve the apparent paradox presented by Zukin in her observations that mass-produced culture can be real, and enormous mass-constructed environments are not necessarily soulless (Zukin, 2009).

Zukin’s observation can be seen as challenging the very notion of structuring urban design to nurture the authentic. Authenticity is what emerges from the behaviour of the population. No observed behaviour can be described as inauthentic by an external observer. Just because we can trace the origins of Korean pop music to a deliberate campaign by industry and government to create a local youth economy does not make the experience of millions of Korean youth inauthentic. “The chaebol age of Korean cinema was not simply a passing [commercial] fad, it laid the foundation for a renaissance of the cinema industry” (Chua and Iwabuchi, 2008).

In contrast, bureaucracies that impose values on communities for their own good maybe as alienating as they are empowering. The embedding of values at the core of the planning process and the education in the process of human-centred design may offer a solution to provide a framework that allows for social, environmental and economic sustainability without stifling innovation and local eccentricity.

Zukin’s work explicitly identifies respect for locality and local community as a measure of authenticity that matters. Local cultural activities define and express community well-being (Zukin, 2011) (Zukin, 2009). The capacity to identify, support and protect what emerges from the community as opposed to imposing values on a community appears to be the key to this process.
<table>
<thead>
<tr>
<th>Key Element</th>
<th>Literature Summary</th>
<th>Authenticity in urban culture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connectivity</td>
<td>The organism of the city needs flow but relies on the wellbeing of the organism at the local level</td>
<td>Infrastructure serves the purpose to facilitate experience</td>
</tr>
<tr>
<td>Culture of Collaboration</td>
<td>Authentic collaboration must include the individual and the local</td>
<td>Authenticity is created by shared appreciation</td>
</tr>
<tr>
<td>Culture of Innovation</td>
<td>Innovate the innovation process around human centred design</td>
<td>Innovation must be nurtured not generated</td>
</tr>
<tr>
<td>Distinctiveness</td>
<td>By definition is local. Protect individual contributors</td>
<td>Ditto</td>
</tr>
<tr>
<td>Entrepreneurial Governance</td>
<td>To govern for authenticity, manage holistically, build from the bottom and protect the local</td>
<td>The challenge is to resist commodification and alienation without stifling innovation</td>
</tr>
<tr>
<td>Master Planning and Community Design</td>
<td>Ditto</td>
<td>Relationship of the organism of the metropolis to the organism that is the locality</td>
</tr>
<tr>
<td>Quality Education</td>
<td>Embed human centred design principles in elementary education</td>
<td>Embed the planning process that empowers the end user / consumer</td>
</tr>
<tr>
<td>Quality of Life</td>
<td>The actual experience of people in their locality matters most</td>
<td>The individual resonance with the culture is a measure</td>
</tr>
<tr>
<td>Liveability</td>
<td>Identify KPIs based on individual joy</td>
<td></td>
</tr>
<tr>
<td>Social Conscience</td>
<td>Measure and avoid alienation. Protect to local</td>
<td>Cherish the individual experience, protect the local</td>
</tr>
<tr>
<td>Sustainability</td>
<td>Incorporate values but allow local interpretation and implementation (inc priorities?)</td>
<td>Embed values without stifling bureaucracy</td>
</tr>
<tr>
<td>Vibrant Economy</td>
<td>Communities will flourish if allowed. Support and nurture while protecting not controlling.</td>
<td>Find local measures of success. Do not impose growth targets or monetary output as measures of success</td>
</tr>
</tbody>
</table>

Table 2 Mapping authenticity analysis into the authenticity framework.

4.3.6 Gentrification and urban authenticity

Gentrification is the celebration of an authentic urban culture by a specific class that can afford to preserve it for their exclusive use. By celebrating and preserving an existing urban culture, gentrification captures and promotes it but, by excluding those who do not prioritise wealth creation, it also cuts off the urban culture from the roots that created it. It becomes a snap-frozen and packaged version of a culture that it replaces. Gentrification, therefore, performs the packaging and alienation defined by Debord and Baudrillard (Baudrillard and Levin, 1988,
Debord, 2012).

The positive contribution made by gentrification is basically that it preserves and celebrates aspects of a city that may otherwise disappear. The historic sections of old towns exist in Asian and European cities only because they have been appropriated and redeveloped as museums, tourist attractions, art precincts, professional or diplomatic quarters or other distinct developments that have little to do with their original roles as ports, forts or accommodation at international crossroads. In the New World, similar cycles of refurbishment have taken place at an inevitably more rapid pace with less historical depth. Thus, we see warehouses turned into loft apartments and galleries, industrial areas refurbished as trendy hospitality hubs and tourist destinations and residential areas being absorbed into educational institutions in a novel and interesting ways.

Not only does this preservation of the built environment avoid the destruction of existing buildings, but it also preserves some cultural history. Tour guides can walk tourists through centuries of cultural experience concerning the physical reminders of behaviours that may otherwise be unbelievable or beyond consideration.

In a more contemporary manner, local culture may be preserved as part of the cultural value that makes an area attractive. A popular market may be given a new lease of life as the centre of a precinct which attracts middle-class patrons who shop there rather than at a supermarket. An area renowned for its artists may provide an income for those artists that benefit from its popularity among residents with sufficient income to buy the art. Similarly, parkland, novel forms of transport, strip shopping centres, and local industry may all be preserved and celebrated by an influx of people who appreciate it.

The movement for walkable urban spaces based on pre-automobile models of development is an expression of this trend.

Singapore represents an interesting example of deliberate gentrification in which cultural sensitivity was an officially stated aim of the planners. The objectives of the planning authority included rights to housing, greenness, cleanliness and safety (Koh, 2018).

It is instructive to tabulate the outcome of that Singapore experience against the framework used elsewhere in this chapter.
What is clear as a result of this comparison is that Singapore has set out to be a successful city by deliberately identifying a set of criteria similar to that laid out in the PWC Cities of Opportunity report. In the terms defined by Debord and Baudrillard, the deliberate construction of centrally controlled objectives arguably leads to an inorganic reality that lacks freedom of creativity. However, the Singapore bureaucrats describe their own success in terms of the satisfaction of the population. Without further research, it is impossible to tell if this is a city-state that exemplifies Jacob’s observations that authenticity emerges from the lived experience of the people creating a culture in the environment in which they find themselves or whether it exemplifies the ‘manufactured’ cultural experience that alarms Baudrillard.

This tension between the organic, bottom-up authenticity that emerges from the lived experience and the explicit attempts to construct an authentic experience re-emerges in interviews with practitioners, below.
4.3.7 Newstead: a case study

Brisbane is a city with rapid growth. Economically robust and culturally vibrant, Brisbane is attracting an average growth rate of 3.29 per cent (ABS, 2016). But this wasn't always the case. In the late 1980s Brisbane was struggling with economic stagnation, urban decay and crime, creating an exodus of residents and businesses to the suburban fringe (Planning Department, 2011). An Urban Renewal Taskforce was established in 1991 and charged with revitalising derelict industrial suburbs in Brisbane. The key objectives of the Taskforce (now known as Urban Renewal Brisbane) were to create sustainable live-work communities in the inner city, revive local economies, deliver affordable housing and reverse the exodus of residents and businesses (Planning Department, 2011). Urban Renewal Brisbane partnered with the private sector and engaged the local community to think of new and innovative ways of thinking about the city’s heart (Planning Department, 2011).

3.3.7.1 Site history and heritage

Nowhere in Brisbane has seen such gentrification in such a short timeframe than Newstead, (Library, 2009) which is now Brisbane’s new lifestyle hub. Once an industrial powerhouse, Newstead quickly developed into one of the most desired places to live in Brisbane. The neighbourhoods of Teneriffe and Newstead comprise of approximately 730 hectares of former industrial land and are three km north-east of central Brisbane and framed by the Brisbane River to the south-east. Much of the activity clustered around the river, which was an important transport corridor. Named after Newstead House on the south bank of the mouth of Breakfast Creek, it included the locality of Teneriffe between 1975 and 2010, until Teneriffe was made a separate suburb in 2010 (Government of Queensland). Teneriffe or the Woolstores precincts as it is commonly known is characterised by its many historical wool stores and other industrial structures erected at the beginning of the 20th century. In contrast, Newstead is home to the Brisbane Gas Company opened in 1887 and the Colonial Sugar Refinery constructed in 1893. These were followed by timber yards, coal yards and wool stores. Many of the industrial buildings and sites in the area are listed on the Queensland Heritage Register, and many played significant roles in the industrial life of Brisbane from the mid-nineteenth century onwards. The existing Woolstores buildings have been preserved to keep their distinctive industrial heritage with the addition of upmarket apartments, parks, boardwalks, retailing and business premises that promotes riverfront lifestyle.
### 3.3.7.2 Opportunities and Challenges

The run-down areas of Newstead and Teneriffe were seen as an opportunity to “create sustainable live-work communities in the inner city, revive local economies, deliver affordable housing and reverse the exodus of residents and businesses” (Heritage). The next few decades have seen Newstead and Teneriffe gradually transform from obsolete post-industrial sites to busy contemporary environments with the commencement of Urban Renewal in the early 90s. With Governments at all levels encouraging urban consolidation of various forms, in-fill housing development, new multi-residential developments combined with retail and commercial spaces, entertainment and the master-planned redevelopment of the inner north-eastern suburbs led by the Newstead and Teneriffe Waterfront Neighbourhood Plan, a subsection of the Brisbane City Masterplan which came into effect in January 2011 and is now a legal document and forms part of the Brisbane City Plan 2014 (Planning Department, 2011).

Through urban renewal projects, Newstead and Teneriffe, including the historical Woolstore Precinct, have been able to contribute to the housing market by increasing its dwelling number from 440 (1991) to 3500 (2006) to 4620 (2016) and is predicted to grow to 8600 by 2030 (ABS, 2016).

### 3.3.7.3 Approaches and Outcomes

The Newstead and Teneriffe Waterfront Neighbourhood Plan is a Local Plan under the City Plan 2014. The development principles encourage the transition from a former industrial area to a compatible mix of residential, commercial, industrial and recreational activities with trendy cafes and restaurants, upmarket studio apartments and renovated older homes.

The Neighbourhood Plan lists the following principles:

- Buildings are designed to present an attractive frontage that enhances the streetscape and other public spaces.
- Existing public open spaces (including Newstead Park and Powerhouse Park) are retained, and new major public open space facilities are established in the Riverpark Precinct.
- Development contributes to an extensive network of pedestrian and cyclist links throughout the plan area, including a continuous riverside bikeway/walkway (River Walk) and cross-block links.
- Development contributes to streetscape works that enhance the character and amenity of the street.
- Carparking is designed and located to maximise pedestrian and vehicular safety and contribute to an attractive visual environment.
- Historical features (including the former woolstores and gasworks) are conserved and re-used for a range of activities.
- Views to the City Centre from Kingsford Smith Drive are retained. These views are considered an important arrival statement for the city. New development assists in the provision of community facilities to meet the needs of the growing local community.
- A range of housing types and sizes are provided, including affordable housing, to meet the diverse needs of the future population. (Planning Department, 2011)

These map in a relatively straightforward manner onto the framework adopted as the basis of this article. That mapping indicates that communal livability and cultural considerations have been a focus, although the ‘active’ elements that contribute to success such as collaboration, innovation and education have not been explicitly identified in the criteria for the plan.

<table>
<thead>
<tr>
<th>Key Element</th>
<th>Newstead</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connectivity</td>
<td>Network of pedestrian and cyclist linkages</td>
</tr>
<tr>
<td>Culture of Collaboration</td>
<td>-</td>
</tr>
<tr>
<td>Culture of Innovation</td>
<td>-</td>
</tr>
<tr>
<td>Distinctiveness</td>
<td>Preservation of existing spaces, views, built environment.</td>
</tr>
<tr>
<td>Entrepreneurial Governance</td>
<td>-</td>
</tr>
<tr>
<td>Master Planning and Community Design</td>
<td>Master plan incorporates community</td>
</tr>
<tr>
<td>Quality Education</td>
<td></td>
</tr>
<tr>
<td>Quality of Life</td>
<td>Open space, integration of parking</td>
</tr>
<tr>
<td>Livability</td>
<td>Preservation and integration of cultural, commercial, recreational and residential spaces</td>
</tr>
<tr>
<td>Social Conscience</td>
<td>Clear focus on community</td>
</tr>
<tr>
<td>Sustainability</td>
<td>Incorporated in existing building regulations</td>
</tr>
<tr>
<td>Vibrant Economy</td>
<td>Integration of commercial spaces and access to city</td>
</tr>
</tbody>
</table>

*Table 4 Mapping formal Council objectives onto the authenticity framework*

### 4.3.8 Expert interviews

Four expert interviews were conducted to form a rich research account to investigate the
phenomenon of authenticity within urban life. An appropriate sample of four experienced multidisciplinary industry practitioners who embrace a range of different positions and ideologies on urban design within Brisbane formed the population for this study (see Table 2) alias names have been used to protect participant confidentiality). As is common in phenomenological research, the interview sample was purposeful and small, although it was determined that four participants allowed for in-depth data collection and the developing of new ideas to emerge. The sample of three males and one female across a diverse range of professions was drawn from the volunteers who responded to an email with the request to partake in the study.

<table>
<thead>
<tr>
<th>Participant Alias</th>
<th>Age</th>
<th>Sex</th>
<th>Occupation</th>
<th>Length in Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emma</td>
<td>35</td>
<td>Female</td>
<td>Planning and Development</td>
<td>10 years</td>
</tr>
<tr>
<td>Jim</td>
<td>60</td>
<td>Male</td>
<td>Architect</td>
<td>30 years</td>
</tr>
<tr>
<td>Brian</td>
<td>57</td>
<td>Male</td>
<td>Architect</td>
<td>30 years</td>
</tr>
<tr>
<td>Sebastien</td>
<td>42</td>
<td>Male</td>
<td>Lecturer in Urban Planning</td>
<td>20 years</td>
</tr>
</tbody>
</table>

Figure 9 Image of table of Participant Characteristics and Demographics

Semi-structured interviews were conducted with four multidisciplinary Brisbane practitioners and recorded for ease of data analysis. Interviewees spoke freely about the concept of authenticity throughout the interview. This fluid approach enabled the researcher (myself) to form a closer relationship and interaction with the interviewee. The use of a digital recorder enabled the researcher to listen freely, make notes and warrant the collection of information.

A basic seven-step model of hermeneutic analysis was adopted as a method that allowed the researcher to extract meanings, themes and patterns that are embedded within the phenomenon. Particular attention was paid to the distinct themes that evolved from that analysis, because they illustrated the diverse meanings attached to the phenomenon. Those themes were:

- Authenticity as resonance with people
- Authenticity as a preservation of history
- Authenticity as a sense of place and activation
- Authenticity defined by spontaneity
- The role of the designer as a ‘black box’ genius
- Approaches to problem-solving
- Authenticity as a brand
3.3.8.1 Authenticity as resonance with people

The phenomenological analysis reveals that resonance is not purely an act of narcissism. For many participants, forming a relationship with people was a crucial measure of authenticity. Brian presented his measure of authenticity as:

“The resonance it has with the people post-construction. If it resonates with people, then I think it is successful. If it resonates with you, who cares? [We] have a responsibility to the greater community so we should endeavor to make things resonate with the people.”

The subjectivity of what resonates with whom and why leads to the concern that nothing is completely authentic as expressed by Emma. “When people come to use the space, you find that things don’t work the way you initially thought they would. It is ever-evolving.”

3.3.8.2 Authenticity as history

The perception of time in relation to the notion of authenticity was also a dominant theme. Sebastien involves people into his design process in an attempt to achieve authenticity.

However, he believes that “to be authentic, you need to involve people from the place at the time so they can tell you what they think. Authenticity, to me means involving people who have known the place for a very long time to attach this historical context.”

He qualifies this. “You cannot just keep urban spaces as they are forever. Otherwise it becomes a museum city. Change is inevitable, and authenticity is constantly in flux.”

Brian added the observation that we need to be conscious of our intent. “If the development is all about improving our lives, then taking resources such as space [requires] a payback. Should high-rise development even be in that area? What are the fundamentals of the over-arching ideas?”

3.3.8.3 Authenticity as a sense of place and activation

The third leading theme to emerge is the idea of authenticity as ‘activation’ and ‘sense of place’.

Emma notes that “urban spaces have a role of connecting people with place. They have the role of giving a quality of life.”

Jim believes that the new kind of density reflected in our cities illustrates a form of authenticity as activated spaces. Similarly, Emma measures the authenticity of spaces by the number of people that use them (activation). She says of Southbank “I think the 10 million people a year who visit it
Brian believes authenticity as a sense of place comes down to the human scale and repetition of form. “These two ingredients can give it a sense of place and comfort. I think the difficult thing for us is to create environments, where someone walks into it, and they feel comfortable.”

### 3.3.8.4 Authenticity as spontaneity

Another emerging theme was the idea of authenticity as a spontaneous element. Each participant presented abstract ideas on the spontaneity of design and how it can often reflect the authentic. Sebastian thought, “sometimes it’s just about letting the urban space evolve without any plans, adding a spontaneous element.” He thinks the primary view of land as a valuable investment makes this problematic in Brisbane.

Emma related the concept of spontaneity to the diverse use of physical objects in that space. “I think of something that is well-used by a diverse range of people in different ways. We find a lot of this happens at Southbank, where places are designed with a specific purpose but there are secondary uses that people find. Adaptable and not superficial.”

### 3.3.8.5 The black-box-genius designer

The notion of a black-box designer comes from software design, where the “black box” describes a software module with known inputs and outputs despite the internal operations being invisible. The concept might also be applied to the designer where the design process is opaque. “Such a ‘Black Box Designer’ produces creative solutions without being able to explain or illustrate what goes on in the process. Furthermore, UCD tries to converge the resulting, often diverse, design alternatives” (Memmel, Gundelsweiler et al., 2007).

The analysis also revealed a dominant theme of hierarchy, where the hierarchical command and control structures governing design within the urban environment often hinder the approach towards authenticity. Jim articulated his concern: “Everything we have ever done is wrong because it hasn’t come from the ground up. Authentic cultures – real cultures, come up out of the ground and come into close contact with the biophysical and the environment. We have never done that so we can argue that everything in Australia is not really authentic. An example of this is Southbank. Southbank is not authentic because its cultural colonisation – built colonisation.”

He goes further to pin some of the blame at the underpinnings of modernism, “It’s a universal approach. There’s lots of things under the problem of Modernism but basically anywhere is...
anywhere. I don’t feel it’s responding to things that are actually real – well not at a deep level. [Design of] urban spaces are hamstrung by the fabric that it has got to work within."

Jim labelled this top-down approach as problematic and scary. He believes that this type of conforming designer also isn’t very good at involving the community and people, but there are countries that Brisbane could potentially learn from.

Emma holds a contrary view: “How we [design] is really defined by what’s in our act. So, it says we have to provide spaces for all the people in Brisbane and visitors alike. It has to be complementary to other spaces and not compete with other space of the city. It usually starts with an asset review where we look at how we use the [existing] spaces and what’s good/ not good. We then look at how we can better use the space – what functions or needs will it provide”.

3.3.8.6 Authenticity as problem solving

Jim feels that design thinking allows designers to tackle the problem. “I’m a bit of a believer that authenticity within design is kind of eristic. It is a research process and a way of trying to understand something by trying out different ideas. Basically, it is the opposite of the black-box-genius designer. People come to learn and understand things through design. They come to understand the problem. The design process is changing people as you go along, and the experts are also learning from people too.”

Sebastian also approached authenticity as a problem-solving tool, but his ideas differ to others as he embraces unexpected uses such as allowing homeless people to live freely within the designed structures, creating authenticity through their informal use of the structures as their homes.

3.3.8.7 Authenticity as a brand

The craving for ‘authentic’ experience has formed a new dominant logic for marketing authentic design and spaces. The analysis of the expert opinions revealed that authenticity is often used as a marketing and branding strategy by urban designers. This pressure means that designers are presented with a brief that does not represent the design holistically but claims it as authentic. Jim feels that Southbank, for example, can be better understood as a knock-off of Miami, rather than using a series of design theories. “I think this is a massive mistake because it’s basically cultural cringe.”

Emma provides an example of how authenticity is branded. “We have design themes such as ‘building places within a place’, ‘buildings within a space within a park.’ I don’t know where these
themes come from, but I know it’s in our masterplan promoting authenticity.”

A common topic of conversation within this theme was the idea of transparency being implemented as a strategy to producing authenticity within urban design. All participants raised the notion and believe it has the potential to become a useful tool. Brian expressed it this way. “Transparency of the process behind a design is a tool that can produce authenticity. I think this is a major link to authenticity.”

### 4.3.9 Conclusion

There is a documented trend of gentrification occurring in cities that leads to problems of displacement and alienation. This may be countered, in some ways and in some cases, by the authentic cultures that emerge in new spaces, regardless of how they appeared.

<table>
<thead>
<tr>
<th>Key Element</th>
<th>Literature Summary</th>
<th>Authenticity in urban culture</th>
<th>Gentrification</th>
<th>Singapore</th>
<th>Newstead</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connectivity</td>
<td>How across metropolis and between localities.</td>
<td>Infrastructure to facilitate experience</td>
<td>Locality preserved, possibly at expense of neighbouring localities.</td>
<td>Focus on mass transit and efficiency</td>
<td>Network of pedestrian and cyclist linkages</td>
</tr>
<tr>
<td>Culture of Collaboration</td>
<td>Authentic collaboration must include the individual and the local</td>
<td>Authenticity is created by shared appreciation</td>
<td>Preserve (or extend) authenticity by protecting the original</td>
<td>Streamlining of red tape and government departments</td>
<td>-</td>
</tr>
<tr>
<td>Culture of Innovation</td>
<td>Innovate the innovation process around human centred design</td>
<td>Innovation must be nurtured not generated</td>
<td>Encourage innovation but involve the original</td>
<td>Industry and academic hubs. Cheap govt loans to industry</td>
<td>-</td>
</tr>
<tr>
<td>Distinctiveness</td>
<td>By definition is local. Protect individual contributors</td>
<td>Ditto</td>
<td>Implicit</td>
<td>Unique position of Singapore identified and exploited</td>
<td>Preservation of existing spaces, views, built environment.</td>
</tr>
<tr>
<td>Entrepreneurial Governance</td>
<td>To govern for authenticity, manage holistically, build from the bottom and protect the local</td>
<td>The challenge is to resist commodification and alienation without stifling innovation</td>
<td>Manage commodification</td>
<td>Strong government regulation in a pro-business environment</td>
<td>-</td>
</tr>
<tr>
<td>Master Planning and Community Design</td>
<td>Ditto</td>
<td>Relationship of the organism of the metropolis to the organism that is the locality</td>
<td>Protect original – integrate with metropolis without homogenising</td>
<td>Strong central planning incorporating diversity on socio economic, ethnic and religious basis</td>
<td>Master plan incorporates community</td>
</tr>
<tr>
<td>Quality Education</td>
<td>Embed human-centred design principles in elementary education</td>
<td>Embed the planning process that empowers the end user / consumer</td>
<td>Education a major focus and integrated with central plan</td>
<td>Open space, integration of parking</td>
<td></td>
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<td>-------------------------------------------------------------</td>
<td>-------------------------------------------------------------</td>
<td>----------------------------------------------------</td>
<td>----------------------------------</td>
<td></td>
</tr>
<tr>
<td>Quality of Life</td>
<td>The actual experience of people in their locality matters most</td>
<td>The individual resonance with the culture is a measure</td>
<td>Protect local – facilitate conflict</td>
<td>Term used without reference to creativity and joy</td>
<td></td>
</tr>
<tr>
<td>Liveability</td>
<td>Identify KPIs based on individual joy</td>
<td>Cherish the individual experience, protect the local</td>
<td>Fairness, safety, preservation of traditions and individual freedom</td>
<td>Clear focus on community</td>
<td></td>
</tr>
<tr>
<td>Social Conscience</td>
<td>Measure and avoid alienation, protect to local</td>
<td>Incorporate values but allow local interpretation and implementation (incl priorities?)</td>
<td>Embed values without stifling bureaucracy</td>
<td>Preserves and integrates cultural, commercial, recreational and residential spaces</td>
<td></td>
</tr>
<tr>
<td>Sustainability</td>
<td>Communities will flourish if allowed. Support and nurture while protecting and controlling</td>
<td>Find local measures of success. Do not impose growth targets or monetary output as measures of success</td>
<td>Primarily economic with reference to environmental impacts on health</td>
<td>Incorporates existing building regulations</td>
<td></td>
</tr>
<tr>
<td>Vibrant Economy</td>
<td></td>
<td></td>
<td>Central focus of plan</td>
<td>Integration of commercial spaces and access to city</td>
<td></td>
</tr>
</tbody>
</table>

Table 5 The full authenticity framework

The danger identified by Debord and Baudrillard, though, is that the very process of preserving a culture destroys it. A community of artists emerging in a downtrodden, undesirable corner of the city arises from the interplay between the original, authentic but non-creative citizenry and the creatives that share their space. As the galleries succeed, house prices rise, and the very fabric of society that created the original creative impulse for the artists in the first place is destroyed as those original inhabitants are forced out. This process is more subtle, where residential laws protect tenants but are still detectable. In the New World, though, the process is rapid and alarming. This can be described as the displacement of those who are not financially capable (or interested) in trading their authentic lifestyle for the building of wealth. In “The Right to the City”, the author concludes that speculation on land prices means that the cultural values are inevitably converted into commodities for commercial advantage.

The impact of this disconnection with the past is a disruption to the overall organism of the metropolis as well as to the locality directly involved. As an active dockland is converted into a hospitality precinct servicing office worker from the nearby CBD, the traditional workers that give it its unique character are forced out, with the detritus they leave behind serving as the symbols
to represent their absent contribution to the local culture. The connectivity provided by the waterways becomes irrelevant as the traffic from the CBD comes to dominate the movement of people, and the area stands in a different relationship to the rest of the city.

Similarly, the role of the streets in carrying goods from the dock to the rest of the city changes and the built infrastructure itself becomes a relic of its former role rather than an expression of its contemporary culture. The observation that property developments are always named for what they destroy applies just as accurately to the Art Precinct as it does to Froggy Hollow or Forest View (Benfield, 2011).

So it is that Baudrillard’s symbols and icons replace the lived experience, denying people access to the richness of a fully lived culture. At the same time, the post-modern awareness that we live in a museum curated for our commercial satisfaction from the activities of the past is an aspect of the culture in which we live, fulfilling Zukin’s observation that authenticity emerges from what we do regardless of any external measure of its connection with an "original" or “real” function.

Singapore offers us an opportunity to study the culture that emerges from a centrally controlled and planned approach to urban planning. The concerns of the experts interviewed for this project range from the observation that it is unlikely that such top-down design approaches can result in authentic projects to the observation that it is the unexpected use of the spaces after they are designed that forms part of the authenticity of urban space.

The literature review leads to the logical conclusion that, on the one hand, strong governance that avoids converting cultural experience into tradeable commodities may help in nurturing authentic outcomes and that on the other hand, allowing diverse uses, implementations and activation of a designed space will lead to unexpected and so authentic uses. While that latter observation is supported by some comments of the industry experts, further analysis of the resident’s observations will test that further.

Fundamentally, authenticity cannot be forced. The human-centred design approach facilitates it, and unfettered commercial investment in community resources undermines it. Governance has a clear role in mediating these effects and making it possible. The key finding, though, is that designers need to engage with the community as much as possible at all stages of the design process, to allow the authentic to creep in.

By bringing the lens of authenticity to this analysis and by tabulating the experience of Singapore and Newstead against the differing analyses, this research identifies a separation between the emergence of authenticity and the governance of social justice.
Both Newstead and Singapore provide different but incomplete, evidence that authentic culture may emerge in a constructed neighbourhood facilitated by the deliberate provision of spaces designed to provide that flexibility. Further analysis of the interviews with residents of Newstead may strengthen that assertion.

It also seems apparent that authenticity is not dependent on inclusivity. The literature survey and the author’s own paper, Rights to the City, identify the worst effects of gentrification: that is, the speculation by investors on property prices and the resultant exclusion and alienation of those members of a community without the capacity or the interest to participate in wealth creation. On the other hand, this does not seem to lead to a lack of authenticity inevitably.

For example, Singapore appears to have avoided this by creating an inclusive policy that makes room for all citizens as a feature of its planning for a successful city, but this has not been explicitly researched. Further research is required into both how stronger governance might avoid alienation and displacement and what relationship such governance may have to the emergent culture.

4.4 The project of Metrofitting

Currently, Australian cities are exploding with road, rail, metro, business and leisure hubs and housing projects, springing up at record speed. The Federal Government has committed $50 billion to infrastructure investment between 2013-14 and 2019-20, pushing Australia’s top cities to compete on an international scale; offering thriving urban centres with fast transport links between home and work countless options for sport, culture, drinking and dining. As discussed, the challenge will be transforming cities to cater for a growing population is a doubling of the population by 2050, something that traditionally took over two centuries to develop, while at the same time preparing cities to become climate defensive.

Although our cities are highly adaptable systems, climate change will challenge the business-as-usual activities of urban centres in many ways (Fünfgeld and McEvoy, 2011). Arguably, Australian cities are well prepared to respond to a range of climate-related hazards. A recent cyclone in March/April 2017 has brought devastation to many eastern coastal cities, leaving a trail of destruction to lives, homes, infrastructure, business, livestock and the environment. The associated floods in Queensland and New South Wales have yet again highlighted the importance for residents to be prepared rather than react once a disaster unfolds. Undeniably, Australian cities have been at the forefront of driving these developments. Fünfgeld states that
many local Council have begun to assess and plan for the impacts of climate change. Likewise, residents in affected cities are well prepared for extreme events like floods, bushfires, heatwaves, hail, cyclones etc. They know how to access vital information and have emergency plans in place. However, these weather events will intensify and become more frequent due to population growth and surging migration. The World Bank (Rogers and Tsirkunov, 2011) has issued a warning to all major cities globally that we are unprepared and currently unable to cope with what will confront us.

Ultimately with climate change, population growth and food shortages predicted, our cities will need to adapt to a difficult future. The practice of Metrofitting discusses a new and different model of adapting our cities. The concept of Metrofitting is taking the idea of retrofitting (which is a technological response) and making urban strategies by addressing all that is at risk in the city, structurally, socially economically and culturally and develops a transformative approach to give a city a viable future (Fry, Kinnunen et al., 2009). The practice presents ideas and actions for the retrofitting on an urban scale, a new practise for planners, architects and urban designers. As such it is presented to overarch and redirect all that is urban and will modify or remodel existing structures, communities, neighbourhoods, cities, and urban cultures, to respond to the challenges and issues of unsustainability (Perolini, 2011).

Importantly, Metrofitting acknowledges that a city is always circumscribed by a complex mix of relational determinates: its topography, climate, demographics, infrastructure, by-laws and ordinance and so on (Fry, Kinnunen et al., 2009). Metrofitting accepts that no matter how well designed a city may seem it will always be a mixture of the functional and dysfunctional.

Furthermore, the practice of Metrofitting acknowledges that the structures of cities are always formed in response to the physical, natural, economic, political, social and cultural. Dealing with all these elements relationally is what distinguishes Metrofitting from retrofitting. The relational approach understands that cities are a diverse and dense web of economic, political, social and cultural structures and need to be understood and challenged as one entity. Within this entity and according to the socio-economic circumstances of its population and environment, the city delivers positive or negative ways of life (Perolini, 2009). Almost everywhere, as urban populations grow, and problems of the unsustainable deepen, inherent problems of the city increase. Problems associated with transport infrastructure, disconnected suburbs, energy supply, homelessness, poverty, a lack of affordable housing, unemployment, crime and violence all fold into each other. The architectural landscape is often incoherent; a historical sense of place is erased and not replaced by the new. The amount of exposed thermal mass in so many CBD’s make them feel unpleasantly hot in summer and icy cold in winter.
Fundamentally, the practice of Metrofitting recognises that we mostly don’t need to add to the existing urban infrastructure by adding more material fabric. Rather, it asserts the priority of dealing with existing elements, especially by modifying their structure, operation and use so they are able to contribute to a city’s long-term vitality. It is based on the proposition that to make the city a better place environmentally, economically, socially and culturally to live and work in, it is necessary to deal with what is already there, in every respect (Peronini, 2009) (Fry, Kinnunen et al., 2009).

4.4.1 Design in Flux

Design in Flux was a major art and design exhibition at the Crane Gallery, Philadelphia in September 2014. The displayed works showcased a selection of exploratory design projects interwoven with a narrative to investigate how a re-coding of present values, behaviours and technologies might take place. My work [Re] Shaping the City addresses the impact of complex urban management structure on social exclusion in the context of metrofitting as discussed earlier in the chapter. The work consists of three 850 x 600 digital prints featuring the voices and faces and homes of displaced people in selected Brisbane areas.

Artist statement as published in online catalogue (Peronini, 2014): Today’s cities are faced with the challenges of rapid population growth, urban sprawl, housing shortages, urban decay, increasing social segregation and displacement of the geographically, climatically, politically and economically disadvantaged. Current ‘solution’ based approaches to issues of the urban lean toward rapid responses to the construction of housing, public buildings, infrastructure and the provision of essential community services framed within short term aesthetic, political and economic agendas. Planners, architects, design professionals and policymakers however have largely failed to address the interconnectedness and complexity of challenges facing urban environments with increasingly disconnected populations and weaknesses in existing social systems. The more resilient the social cohesion of a community, the less vulnerable it becomes. The challenge of providing opportunities for the excluded and marginalised must be examined not as an instrumental solution to the provision of affordable housing, but as a reshaping of lives, a reconnection to community, and as an ethical and equitable “Right To The City” leading to more compact cities and greater cohesion.

My research addresses the impact of this complex urban management structure on social exclusion. Although social exclusion is both an urban and regional problem, I will limit my research to the urban. My work examines social exclusion in urban areas, also referred to as marginalisation, as a result of a lack of interconnectedness between different neighbourhoods (suburbs) as well as segregation from essential services. Although by nature suburbs are
unequal, some offer many opportunities while others, often the ones on the fringes of cities offer less than favourable circumstances. Due to their affordability, they both attract different demographics. The inequalities of the different areas are evident in work opportunities or the distance to work, quality of schools, physical environment in the forms of housing quality and available green spaces and access to necessary amenities and services, often resulting in limited or absent participation in active citizenship, the prompting of a sense of failure, rejection and shame often passed down through the generations. Typically, the most vulnerable in society, people on low income, welfare recipients, single parents, teenage parents and people with disabilities concentrate in the poorer areas, often creating real concentration of long-term poverty.
4.4.2 Exchange

A second major exhibition titled Exchange in 2015 at Crane Gallery in Philadelphia exhibited works which investigate the nature of exchange when negotiating in a world where design is constantly redefining itself. My work titled Excluded People and Places explores the impact of the pro-globalisation position Australia has accepted and with it the production of new range of realities which produced enormous benefits for some but not all. My work examines the housing affordability in Australia for people who have suffered long-term unemployed or long-term rough sleeping and uses the Brisbane Common Ground project as a case study. The work consists of interviews highlighting the two different voices – the informal voice (socially excluded) against the formal voice (Policy makers and agencies acting on their behalf) – and the processes adopted while attempting to alleviate the increasing economic divide that causes social exclusion.

Figure 12 Queensland College of Art exhibition at Crane Arts Philadelphia 2015. Image by author

4.4.3 Hothouse article 2011

The following article was posted in a blog promoting an upcoming Hothouse by the author and colleagues: Brisbane 2048. The Hothouse provided opportunities for participants to engage with, and develop an approach to, ‘redirective practice’ and ‘sustainment’.

CHANGESCAPING | Thought | City Retrofitting in

Brisbane 2048, March 2011, presented by: Professor Tony Fry, Petra Perolini, Nora Kinnunen, & Will Odom, Metrofitting: Adaptation, the City and Impacts of Climate Change, Brisbane: Griffith University Queensland College of Art.2011. The hothouse was created and chaired by Tony Fry with assistance from Petra Perolini, Nora Kinnunen and Will Odom.

This project was selected to test the framework in practice further and explore ways in which it might be employed pedagogically. The framework was applied retrospectively.

Post: The Garnaut Climate Change Review has found that without mitigation, and in the absence of negative feedback from climate change, global emissions will double between 2005 and 2030. Globally, cities are responsible for up to 75 per cent of the world’s greenhouse emissions and this has provoked a range of responses, including large scale city retrofitting to reduce emissions,
and mitigate climate change. In Australia, it is estimated that cities are responsible for 67 per cent of national emissions. While most Australian cities have set greenhouse gas emission reduction targets, there is urgency in calls for action and diverse groups, including Arup and the Griffith University – Queensland College of Art (QCA) Design Futures program, have presented their approaches to metropolitan retrofits. This is change scaping at a great scale: meaningful, optimistic and intentional.

The proposals generated by Arup and QCA Design Futures present very different responses to retrofitting the built environment. Arup’s VEGAS2015 – the Brisbane Retrofit project is a strategic response to climate change intended to catalyse fundamental change in policy and planning. The project acknowledges that there is only a small window of opportunity – until 2015 – to drastically reduce carbon emissions. This raises a raft of questions about the future of the built environment and Arup used its extensive resources to facilitate knowledge exchange and provide some leadership by introducing multiple approaches to development and policy. It requires retrofitting our thinking, visions, stories and ideas – memes – of cities and urban communities.

VEGAS2015 arose from several years of research through the company’s Foresight Drivers of Change initiative. The work is underpinned by research conducted by UK-based Arup Director, Peter Head, who delivered the 2008-9 Brunel International Lecture in which foregrounded transition into an ecological age. Head explained that “human development is now following a dangerously unsustainable path globally. Waves of investment in low- and middle-income countries are accelerating this problem because they are following an unsustainable model.

Our urban areas and methods of food production consume land and non-renewable resources inefficiently. But we can do something to turn the situation around: we can move towards an ecological age.” The project also has the support of the C40 cities and the world’s largest cities that have pledged to help arrest climate change. VEGAS2015 is one of many localised responses intended to prepare cities and urban communities for the ecological age. The thrust of Head’s research is to find a way to begin to make this transition.

One of the most efficient ways of achieving this is by scaling up retrofits – the whole city not just single buildings and spaces. Arup’s strategies for realising this goal addresses the ‘carbon layers’ in a city and investigates policy interventions and funding models (such as pension funds). The citywide carbon layers include land use, finance, clean technology, food, informatics, water, waste and energy. The Federal Government has a centrally vital leadership role to play in this process, particularly in the development of interleaved urban and climate
policies. There’s a community based – human interface – dimension to these carbon layers, which are ultimately derived from our own behaviour, habits, tastes and choices.

Addressing the relationship between a city and its people may require other kinds of conversations and mobilising in other ways – under the rubric of social, symbolic or cultural capital – to provide spaces for professionals and citizens to not only imagine and create other ways of living, but also come to understand the intricate connectedness of the one and the many. Led by Professor Tony Fry, the QCA Design Futures ‘Metrofitting’ initiative conjured one of those conversations, engaging planning, design and arts practitioners concerned about the future of cities. Fry has led a series of ‘hothouses’ in which Design Futures program candidates collaborate with external participants. These events tend to focus on a specific problem or set of problems, and result in some kind of public presentation, an attempt to participate in and initiate another kind of conversation.

The hothouses have provided opportunities for participants to engage with, and develop an approach to, ‘redirective practice’ and ‘sustainment’. In this sense, the process makes demands of participants to think differently about design and its relationship with the world. Sustainment recognises that current approaches to sustainability are limited, tend to offer false hope, and serve to ‘sustain the unsustainable’; redirection is necessary in order to create a viable future. Fry’s ideas are detailed in Design Futuring: Sustainability, Ethics and the New Practice (UNSW Press, 2009), in which the importance of redirective practice is described as “elevat[ing] the seriousness, importance and futuring potential of design”. This involves taking design beyond a
disciplinary model so that a transformation of knowledge and of us is enabled. Fry describes this as ‘redesigning design’. In considering the impacts and causes of climate change – ranging from heat islands to environmental refugees to peak oil to dwindling agricultural land – the hothouse group developed a program of design responses to the city and a program of design for the city. In the event themed Brisbane 2048, propositions for mitigation and adaption included consideration of decentering the city, retrofitting, green screening, infill development, citizen science/design resources, revised building codes and localised renewable energy capture.

Figure 15 Metrofitting: Adaptation, the City and Impacts of Climate Change. Image by author

The Design Futures group subsequently produced a publication, Metrofitting: Adaptation, the City and Impacts of Climate Change. Intended to prompt debate, this monograph includes texts by Tony Fry, Nora Kinnunen, Petra Perolini and Will Odom. Setting the scene, Fry’s introduction issues a call to action: “government departments, public services, industry and individual households responding to coming problems in an ad hoc manner would be inefficient and ineffectual. The appropriate response needs to be preventative, adaptive, social, economic, technical and cultural.” Offering a critique of current government approaches to urban planning, the publication sets out a program of ‘metrofitting’ that redirects all that is urban – in its relational complexity and by dealing with what already exists. The process requires imagining what the metrofitted city might be like through the creation of a story and an image: “a metrofitted city not only has to operate to deliver a high level of sustainment but it also has to be seen to have changed: it has to sound different, feel different, appear different and be different.” With this in mind, the publication offers reflection on current city-making orthodoxies with proposals for managing risk and utilities as well as consideration of daily needs such as food and clothing.

There’s a seriousness in the propositions for retrofitting and metrofitting that points to the likelihood of a devastating crunch where cultural and environmental crisis collide. Ideas like those offered by Arup and the Design Futures team engender a way of creatively averting or deflecting
that possibility. While Arup proposes a pathway through existing relations and structures, Fry articulates a need for a wholly new set of foundations. Changescaping means catalysing these discussions, offering provocations or possibilities and kicking us along the path of change. The retrofit and metrofit projects are, within their own logos, pitched at the need to think beyond the technocratic and normative hierarchies and assumptions of planning and design. They usher the transformative impetus to open a space for debate and exploration of what urban life means now and what it should look like in the future.

4.5 Alternative Housing Models

The success of housing co-operatives is evident in many parts of the developed world. Countries like Germany, Switzerland and Sweden and many more have shared a long history of embracing different forms of housing models and co-operatives, and co-housing have become well integrated with the housing market. In those countries, housing cooperatives and co-housing provide an alternative to the traditional methods of acquiring a primary residence.

Democratically run, a housing co-operative is managed by its residents, who take on the responsibility for its operation. The co-operative owns the building and residents purchase shares. Residents become a shareholder in a corporation that owns the property. As a shareholder, members are entitled to the exclusive use of a housing unit in the property. Co-operative ownership offers a lot of flexibility. Tenants will still have their private spaces, but the model is based on sharing facilities. For example, this might include workshops, common rooms, laundries and cars. This allows for consuming less space individually and using fewer resources.

An alternative to co-operative is co-housing. Although the two terms are largely used interchangeably when referring to alternative housing models, the concept of co-housing differs from co-op housing in several key areas. The legal structure in co-housing falls within the mainstream concept of the familiar strata title scheme. However, co-housing differs from duplex or multi-unit housing in that more of the space is shared, enabling more efficient use of land. It is similar in principle to a granny flat development but less restrictive, allowing for more varied and flexible household groupings (McGee and Benn, 2015). Often, a co-housing community is a non-profit housing community where a group of people, independently or in partnership with developers or building owner, organise to create a collaborative neighbourhood; an alternative way of living based on mutual respect for each other and the environment. “Private homes contain all the features of conventional homes, but residents also have access to communal facilities such as an open space, courtyards, a playground and a common house where optional shared meals are prepared and eaten with neighbours, and other social events occur” (Holtzman, 2012).
The first modern housing co-operative was built in Rennes, France in 1720. Significant housing co-operatives first emerged around 1850 in Denmark, France, Germany, Norway and Sweden in response to the massive movements of populations from rural to urban. The idea quickly spread and in 2017, co-operative housing and co-housing have a significant presence throughout the northern European countries and the world. In Australia, co-op housing can still be linked to radicalism associated with the squatter movement of the 1970s and has failed to make any significant impact on the housing market. Despite there being over one billion members of co-operatives worldwide, according to the Cooperatives Federation of NSW, this housing model has been rather sporadic in Australia (Oczkowski, Krivokapic-Skoko et al., 2013)

Viewed largely as a fringe or alternative-lifestyle housing model and often stigmatised as social housing, community housing is nonetheless growing in popularity, especially in the face of increasing community concern for affordability and environmental sustainability. There is a growing trend to support flexibility and innovation in the housing market, particularly in urban Australia (Holtzman, 2012).

Though each model of co-op housing is unique, they all share one fundamental element: collective ownership. Collective ownership means affordability, security, a decent place to live, and transparency in management, a strong commitment towards social goals and the possibility of personal growth by gaining new skills and knowledge. Similarly, co-housing comes in many forms, but their main focus is people centred. The physical designs encourage both social contact and private space. Both models share an interest in creating community.

<table>
<thead>
<tr>
<th>Cooperative housing main characteristics</th>
<th>Co-housing main characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advantages</strong></td>
<td><strong>Advantages</strong></td>
</tr>
<tr>
<td>The housing co-operatives own the properties and members own a share but have no equity in their units</td>
<td>Greater cooperation between the neighbours</td>
</tr>
<tr>
<td>They are non-profit: rents are based on operating costs, no dividend or interest is paid and proceeds from liquidation go to similar organisation</td>
<td>Opportunities for the residents to interact and therefore create community.</td>
</tr>
<tr>
<td>The board of directors holds the administrative and executive power in the co-operative.</td>
<td>residents manage the physical aspects of the neighbourhood as well as the social aspects</td>
</tr>
</tbody>
</table>
Table 6 Cooperative Housing International 2017 from Figure 8 (Co-operative Housing International, 2017)

Both types of housing models are innovative and have demonstrated, through design and resource sharing, the capacity to develop a neighbourhood characterised by strong social cohesion and a reduced environmental footprint (Holtzman, 2012). Although the positives some co-op and co-housing communities in Australia exist, neither model has made any significant impact on mainstream housing.

4.5.1 The situation in Europe

Alternative housing does not have as strong a foothold in the Australian housing market as in the rest of the western world. Switzerland for example has a total housing stock of 172,000 for co-op dwellings. This is 57 per cent of the non-profit rental stock and 4.3 per cent of the total housing stock in Switzerland (2011 –Federal Statistical Office). Switzerland has one dominant type of housing co-operatives, called ‘membership’ housing co-operatives. This type is similar to the co-
operative housing model described earlier. All tenants are members of the co-operative, which grants them a preferred position. The majority of co-operatives are located in Zurich where housing co-operatives make up 20 per cent of the market. Typically, co-operative housing can range in size from a few units to upwards of 5000 units. Switzerland has a long history with co-op housing and the initiative has received federal, cantonal and city-based support through financial assistance and land agreements for around 100 years (Co-operative Housing International, 2017).

Kalkbreite in Zurich is a radical form of collective living for around 250 people, offering a range of apartments from one person to families or groups sharing apartments of up to 12 people. The complex was built on top of an existing tram station and includes features such as raised gardens, courtyards, a cinema and cafes (Cities in Transitions, 2017). Opened in 2014, the project is one of the most recent examples of co-operative housing. The development features a real mix of commercial and residential tenants in a vibrant Zurich neighbourhood. Often referred to as an urban laboratory due to its architecture, Kalkbreite is seen as an innovative urban development in a busy inner-city location, blending 24 businesses with residences without losing the feeling of community (Bridger, 2016).

Similarly, to the rest of the western world, Germany has a major issue with housing affordability. In Berlin, Germany’s capital city, about 1,000 buildings and co-housing groups have been developed over the last 40 years (Cities in Transitions, 2017). The community-led housing and Baugruppe model is in high demand in Berlin. The term ‘baugruppe’ translates as ‘building groups’. In an interview, La Fond explains that the availability and affordability of land combined with a surplus of apartments have created a lot of possibilities for experimenting with new forms of housing. As a city that had to be rebuilt after the war, Berlin is home to self-organized communities who turned vacant lands and buildings into squats, housing cooperatives and
communities of students living together. Therefore, the city became a fantastic field of play for alternative projects, which cemented the local co-housing culture (Cities in Transitions, 2017).

In Berlin about 200,000 apartments are part of housing co-operatives, which represent about 10 per cent of the total housing stock. In the whole of Germany, co-op housing represents five per cent of the total housing stock and 10 per cent of the total rental housing stock (Co-operative Housing International, 2017). Many of them have been around for decades, but there is a new generation of co-operatives emerging that emphasize the idea of a community, participation and affordability (Cities in Transitions, 2017). Over the last five years, alternative housing communities have been growing and the projects have become bigger. The larger developments have seen professionals specialise in the planning, conceptualising and delivery of projects that create a lot of opportunities for self-organization, community life, ecology and sustainability. They are not just nice places to live, but they also integrate the whole neighbourhood through community gardening and co-working.

In Sweden, co-op housing provides more than one fifth of housing. Just after World War Two, the Swedish government started subsidising co-op housing in a similar way to other housing types. The tenant movement at the time quickly took advantage of this development and HSB, one of the largest housing co-ops, was founded as part of this movement. HSB and other similar co-ops were price controlled until 1973 and subsidised until 1990, gradually expanded before being exposed to market forces. The Netherlands, Denmark and Sweden top the European list in alternative housing models. Most people associate Swedish co-housing and co-op housing with the hippie lifestyle of the 1970s, but today’s updated model of communal living has come a long
way.

Long appreciated values like interests in self-organisation, collaboration and cooperation still exist, but recent developments show passionate engagement of increasing numbers of people from various backgrounds communities and cities, interested in forms of housing that recognise changed household structures of today, bringing a revival and new energy to this unique movement (Sustainability, 2012). As one of Sweden’s oldest and largest housing co-ops, HSB has 550,000 members. One of their latest developments is the Living Lab in Gothenburg. A ‘Living Lab’ is a research concept but for HSB and the university of Chalmers, it is also naming a residential housing project for students and researchers. The project is quite radical and acts as a research platform for HSB developing the home of the future. In close collaboration with Chalmers and Gothenburg Universities, HSB uses the student housing project to experiment with different materials, products and different ways of living. The building comprises of 25 units for students and researchers on three levels. The units allow for much flexibility and the layouts can easily be reconfigured over the 10-year research period.

Like other community housing projects, Living Lab includes some common spaces like community rooms, laundry facilities and an exhibition area. HSB is hoping that the research findings will provide solutions to today’s housing challenges of affordability, and sustainability (Co-operative Housing International, 2017).

Figure 18 An early artist's impression of the HSB Living Lab in 2015 Retrieved from http://suslab.eu/partners/chalmers-th/hsb-living-lab/
4.5.2 Alternative housing models in Australia

In contrast to the housing situations overseas, community-based housing in Australia only represents 0.06 per cent of the total housing stock (Australian Bureau of Statistics, 2017). However, with a growing international attraction to alternative housing, there is interest in expanding co-operative and co-housing developments in Australia, particularly in the inner suburbs of cities. There is also a speculation that this form of housing could provide some answers to the housing affordability crisis (SBS, 2013). Although co-operative housing today does not have a strong position in the Australian housing market, this was not always the case. There are co-op developments dating back to the 1990s that were considered successful and forward thinking. Cascades, a well-established cooperative housing community in Tasmania was established in 1991, and has inspired a more recent development, ‘Tasman Village’ in Tasmania. Similarly, the Pinkarri community in Western Australia is one of a number of smaller, recent ventures into co-operative housing that is enjoying moderate success (Schwartz).

Further interest for co-op housing has been expressed from the city of Fremantle in WA. The site was inspired by Germany’s Baugruppen housing co-op type developments and are hoping to build a fully council owned co-operative housing development in East Fremantle. Housing affordability is the driver for this recent pilot project in Fremantle as the medium house price in Fremantle is considerably above the medium house price in Perth. Geoffrey London, inaugural WA Government Architect (2004-2008) and former Victorian Government Architect (2008–2014), is leading the research and elaborates, “that in order to maintain a diverse community and welcome people of all types to our town, we need to look at innovative ways to house them” (Cheng, 2016).

The Nightingale Model developed in Melbourne over the last decade sets out to deliver multi-residential housing that is environmentally sustainable, financially affordable and socially inclusive. The website of the organisation says, “We believe that what we do can positively impact the urban environment and promote better health and well-being outcomes” (Nightingale, 2019).

The model has been developed by architects initially based at Breath Architecture and promulgated to participating architects through its open and transparent knowledge sharing process. The model has evolved further to maintain tighter control over quality and ethics.

The Model groups outcomes under five headings: Affordability, Transparency, Sustainability, Deliberative Design and Community Contribution. The principles employed under each heading have been tabulated below.
This tabulation can be used as a cross reference to the Authenticity framework when collating the elements for the Design Futures framework. That is the task of the next chapter.

### 4.6 Broader considerations

The displaced population of the world is enormous and growing rapidly. Many factors contribute to the number of displaced people, including the impact of climate change. The pressures of refugee populations on developed countries has had significant impacts on the politics of those countries and their planning policies. In developing a sustainable approach to planning, that takes responsibility for the long-term implications of design, these global influences cannot be ignored, in fact, they should inform design practice at the deepest level.

#### 4.6.1 Climate displacement

The term ‘environmental refugee’ stands in for a missing term — currently there is no adequate way to name those people who have lost, or will lose, their place of dwelling and work in the world because of climatic change. Notwithstanding this, the numbers of people who are going to be displaced in the coming decades will be enormous.

The current Kyoto agreement sets a target for developed nations to reduce their emissions from...
greenhouse gasses by 5.2 per cent over the first commitment period from 2008 to 2012. Developing countries have lower per capita emissions than the richer neighbours and developed countries recognise that they have to take major responsibility for the current situation. Developing countries are severely disadvantaged and rely on richer countries to fund low-carbon development and adaptation measures. Oxfam estimates that the cost associated with adapting to climate change for developing countries will be at least $50billion annually (Schuemer-Cross and Taylor, 2009). Oxfam proposes the EU and countries such as the USA, Japan, Canada, Republic of Korea and Australia should contribute over 95 percent of capital needed. For Australia, this means a contribution of 2.9 percent or a total cost of US$1.45 billion per annum. The questions arise, if richer countries are acknowledging responsibility for the increase in global temperatures, who will pay to relocate millions of ‘climate change refugees’ and who will take them?

The current Geneva Convention, which defines and serves to protect refugees, has no provision for ‘climate refugees’. The term ‘environmental refugee’ is not clearly defined (not least because it does not conform to how refugees are defined in international law). Some commentators use the term ‘environmentally forced migrants’ or ‘environmentally motivated migrants’, others use the term ‘climate refugees’ or ‘environmentally displaced people’. The definitions are confusing and misrepresent the importance of the situation. Some countries vulnerable to climate change are calling for more international recognition. Generally speaking, there has to be a greater emphasis put on the urgency of the condition faced by environmental refugees, beginning with recognition under the 1951 UN Refugee Convention. In addition, affected countries need to be compensated for ecological damage leading to absolute regional or national dysfunction. This means that the main contributors to global warming need to clarify their obligations and contributions to problems associated with climate change, including making provisions for ‘climate refugees’.

Environmental refugees can be classified as people who have been uprooted from their home, and displaced from their land, economic base and livelihood due to impacts from global warming (including social instability and related conflicts). A number of international studies predict that a temperature increase of 2°C above pre-industrial levels could occur by 2050 unless greenhouse gasses are dramatically reduced (Rignot, Allison et al., 2011). The Asia Pacific region will be directly affected by global warming and suffer serious consequences including rising sea levels, an increase in extreme weather events, an increase in water-borne disease, reduced air quality, restricted food production, diminishing water quality, extreme bush fires and droughts and consequential economic impacts.
Although it is essential to increasingly reduce greenhouse gas (GHG) emission to reduce further warming, temperature increases will continue in the coming decades due to the effects of current and previous emissions.

In fact, sea levels are already rising due to an expanding ocean and melting glaciers and ice mass. South Pacific islands are already being affected by rising sea levels.

Studies also confirm that other areas in the Asia Pacific region such as Bangladesh with its low-lying coastal lands could potentially be inundated — at worst this could mean the loss of 40 percent of the nation’s land mass and 60 million people rendered homeless. In the short-term Oxfam have forecast that as many as 20 million Bangladeshis will need to abandon their homes by 2015. Similarly, Indonesia and parts of Africa with their vast coastlines will be affected greatly by rising sea levels in coming decades. Many refugees will try to resettle in inland areas or neighbouring countries with similar cultural values, others will relocate elsewhere. The arrival of vast numbers of people crossing borders uninvited is deemed to be a massive threat that could spark major conflicts. In the face of such prospects, western countries need to be prepared for a mass influx of environmental refugees in the coming years (Schuemer-Cross and Taylor, 2009).

The International Panel on Climate Change (IPCC) projects that as many as 200 million people will be exposed to severe stress from climate change by 2020 (Schuemer-Cross and Taylor, 2009). Oxfam estimates that the effects of global warming will affect people of low-lying coastal areas much earlier than previously predicted. At the March 2009 IPPC meeting in Copenhagen the projection was that 600 million coastal dwellers would have lost their homes due to rising sea levels by the end of the century. The world’s poorest people will feel the effects of climate change the most; these are countries where according to the US Census Bureau, global population is expected to increase from six billion to more than nine billion by 2050 (Roser, Ritchie et al., 2013). As people’s livelihood and access to water diminishes and food production becomes much harder due to global warming the speed of mass migrations will increase.

Hundreds of millions of people will suffer, especially in developing countries. The reliance of the poorest countries on a vulnerable agriculture sector, along with their economically disadvantaged populations and their limited material resources means adapting to a changing climate will be hard. It follows, the expectation is that climate impacts will hit them much harder than wealthy nations.

Australia will need to plan for an intake of regionally (and internally) environmentally displaced people who have lost their homes, livelihood and sense of a future. In some regions entire
cultures will be lost when culturally distinct groups are displaced and dispersed. The likely initial resort to ‘border security’ measures will be inappropriate and ineffectual. The Defence White Paper released in March 2009 states that the people issue, referring to the mass migration of people affected by climate change and social unrest, is a critical one. The paper deals predominantly with securing the safety of Australia and its people from attacks. Shielding the country from an influx of refugees as a result of climate change related social unrest from nations to the north could be read as indivisible from the decision to double the navy’s current submarine fleet from six to twelve. The paper recognises that Australia faces the real threat of potentially hundreds of thousands of refugees needing to relocate.

Clearly the Australian Government will confront the need to make key ethical decisions over continuing with a “Fortress Australia” policy or co-operating with the international community in accepting large numbers of environmental refugees. In reality, the numbers and needs of refugees will be beyond any nation’s ability to exclude. The issue and the planning imperative both centre on the management of mass influxes of people. The prospect is almost certainly unavoidable, as is the arrival of complex associated social and economic problems. It is thus essential that a proactive approach is taken to develop an agenda to plan and organise for the acceptance of significant numbers of vulnerable people.

National security and law enforcement agencies worldwide are already taking a serious interest in climate change and its potential threats to national security. An unmanaged influx of a large group of environmentally displaced people would most certainly trigger huge problems. Short term there are dangers of serious housing shortages, dramatically increased high unemployment rates and social unrest (leading to civil unrest and crime). Long-term it could lead to serious food and water shortages. Added to this, Australia will have to deal with its own environmental challenges, more intense draught, more severe bush fires and more severe storms. While the Government’s response will likely be to try to maintain the status quo, such efforts will undoubtedly fail. Another course of action must be found, and it has to commence now.

In this context, social justice issues will become more important. These issues need to be incorporated within adaptation programs and address questions like the effect upon people at risk of losing their livelihood — this within a planning process that focuses on helping people to prepare for the move and thereafter assisting them to integrate with existing communities. Ways for them to learn the language, make new homes, gain employment, financial support and enter education programs all need to be prefigured. Likewise, existing communities will need help to be able to absorb, cope with and accept a large influx of migrants. All this is what needs to happen now.
Getting local communities involved in planning, decision-making and implementation of agreed decisions is a key strategy to minimise conflict, as is sharing ideas, creating awareness and initiating community projects can help facilitate acceptance by established communities. Education programs should focus on introducing ‘climate refugees’. People with knowledge and skills who could have a lot to offer to a community are equally needed and the diversity of culture needs to be seen as positive.

The challenges are enormous and the later they are left the greater they will be. Included in these challenges are of course those of Metrofitting, finding ways to avoid conflict and accommodating huge number of refugees.

4.6.2 Theories of space

How are spaces designed, created and adapted? How important is the user of the space to the designer during the design process? How are assumptions and interpretations made concerning place, time and space (including material/physical/virtual and cyber space).

Engagement and insight from critical theory is paramount in providing answers. Beyond notions of spaces for subjects, objects and events how are these spaces socially constructed? Who are the designers of those spaces and what agendas are fulfilled through designer roles? Those are kinds of questions students need to learn to ask and answer. They need to grasp the human experience and interdependent concepts of space and how place is expressed across the disciplines – in art, philosophy, literature, geography, psychology, science, sociology and anthropology. Tuan proposes that ‘ideas about space emerge from constructivist notions that experiences are the modes by which we construct reality (Tuan, 1977, p. 6).

Theories about space and place include conceptions of space as static and concrete, space as location for objects, subjects and events, space as defined completely in terms of relationships and space as a form imposed by people’ (Elliott Burns, 2003). There is value in understanding space as being socially produced as observed by Lefebvre. In interior design the production of space is achieved through design practices which themselves are located in spaces, through representations of space like blueprints, concepts etc. These productions largely regulate and organise space “through often contested social, cultural, political, and economic meanings”. Burns argues that space has a function in creating settings in which we are able to form and perform our roles and identities. In professional practice, designers develop concepts away from the space and site of construction using abstract ideas and drawings about materials,
construction methods, expressive forms and functions. In the design process the objective is to understand the client’s world and to determine how and with what criteria they judge the process and interactions within that world (Alexander, Ishikawa et al., 1977, p. 80). The human participant in the environment apprehends both the concrete experience that is the result of design decisions and the abstract values upon which they are based (Elliott Burns, 2003).

In the domain of architecture and interior design, space is a primary component.

Students have very little understanding of any philosophical interpretation of space and introducing new ideas and unfamiliar concepts to students has proven difficult. Students dominantly relate to space as a site of design and construction rather than a philosophical concept. Although I have been working as a designer for two decades, I too have found it difficult to relate philosophical thinking to how I design. The inquiry into how humans interpret space highlighted my own insufficient knowledge early in my career and has developed into a research interest.

3.6.2.1 Lefebvre – The Production of Space

The main message in Lefebvre’s *The Production of Space* is that space is directly produced. (Lefebvre and Donald, 1991). Space is not an empty volume waiting to be filled but rather it is a product that can’t be separated from human activity, likewise it is affected by and affecting that activity. It can therefore be seen as a product of the everyday and equally it is constantly producing. Traditionally, in western culture, space is perceived as something to be filled with scientifically constructed rationality and reason. To Lefebvre, (Lefebvre and Donald, 1991, p.135) however, social space was conceptual and physical at the same time. Social space is the realm in which the ‘cultural life’ of society is enacted. It is produced by a pattern of social interaction, but in turn imposes itself on its users and consequently shapes society. Space encourages and discourages certain forms of behaviour and interaction and gives form to social structures and ideologies (Lefebvre and Donald, 1991, p. 134). Lefebvre’s interprets space on three levels:

**Representational Space** is the space of inhabitants and users (in the sense that all space is symbolic and mediated, all space is representational – it is hermeneutically engaged). It is a space which is experienced passively and heavily influenced by ideological thoughts and theories. Representational space overlays physical space, making symbolic use of its objects (Lefebvre and Donald, 1991, p. 135). Representational space is produced and contains spatial codes that change over time. The representational spaces of everyday life are produced by contemporary spatial codes and embody complex symbolisms. Space as directly lived through its
associated images and symbols and therefore the space of users but also of artists and writers and philosophers. For example, the village church, graveyard and village square.

**Representations of Space** is the formal conceptualised space of planners, scientists, urbanists, architects etc. Those spaces take on a physical form and can best be described as maps, plans, models etc. According to Lefebvre (Lefebvre and Donald, 1991, p. 116), representations of space are about the history of ideologies. These histories can be studied by looking at how plans of a space changed over time. **Representation of Space** is conceptualized space without life, simply an abstraction. This level of space design is the one predominantly experienced by design students. A space of calculations, geometric and the visual, although abstract, is the language of architects and designers; tied to the production of those spaces and the order in which the production occurs. Intervention or inception occurs at the time of realisation or construction. For example, blueprints and plans but also the earth, the world and the cosmos.

**Spatial Practice (perceived space)** is Lefebvre’s third and final interpretation. There are three different levels of space, from very abstract, crude, natural space (absolute space) to more complex spatialities whose significance is socially produced (social space). Social space is a social product. Every society produces its own social space. The production of social space is fundamental to the reproduction of society (its social control) [e.g. Soviet Union failed to produce a socialist space]. Spatial practice is what we do and although this might seem obvious, it is considerably different to how space is conceived by architects, and planners.

Rather than seeing spatial practice as an activity that creates space, it is seen as producing space; as spatial practice is ordered and spaces themselves are ordered through representations of space like drawings and blueprints. Historical representation of space was an exclusive activity undertaken by priests, mathematicians, architects, composers, artists and economists and so on, but not workers. Lefebvre provides an example in the invention of the perspective in landscape painting (Renaissance) and the sense those paintings created of a ‘true space’. Spatial practice embraces production and reproduction (Lefebvre and Donald, 1991, p. 140). For example, roads connecting towns, towns, waterways trough towns and cities.

A multitude of things are expressed in spatial terms, from nature’s physical space to manmade spaces, even mental space and social space. Social space is the realm in which the ‘cultural life’ of society is enacted. As described by Lefebvre, space is produced by social interaction, imposes itself on its users and in turn shapes society. Space encourages and discourages certain forms of behaviour and interaction and gives form to social structures and ideologies. A concern with space has been the preoccupation of many thinkers dating back to pre-Socrates.
More recently The Production of Space has influenced spatial theories in several disciplines including theorists, practitioners and educators of urban studies, architecture and design. To Lefebvre, all social space is produced. The only space that is not produced is nature itself (if not modified). This space (nature) sits within a complex grid that constitutes social reality and is beyond re-capture. Lefebvre’s work is that of an activist. He calls for the recovery of ‘authentic’ spaces that neither commodify nor oppress. In addition, he is calling for new and existing spaces, like buildings, living spaces and community places to be re-looked in relation to finding the truth and to reconceptualise lived spaces. Lefebvre’s philosophy seeks to create awareness of social space as produced by the state and by capitalism. In his view, if we don’t reconceptualise spaces, capitalism will create space that turns us all into labourer-consumers and the world into pure resource (Lefebvre and Donald, 1991).

4.6.3 Bendell’s Deep Adaptation

The Deep Adaptation work of Professor Jem Bendell of the University of Cumbria begins from the premise that many of the challenges faced by social planners are underpinned by the widespread acknowledgement of the scientifically valid assumption that the human race may become extinct in the next century. Bendell concludes that given the dramatic scale of the challenges we face, we must radically alter our professional practice and move past the current attempts to gradually become sustainable and, instead, frame all our activity in the context of imminent social collapse, using our professional practice to increase resilience and minimise or eliminate all activity that is not directed to that end (Bendell, 2017).

“Leadership theorist Jonathan Gosling … suggests that besides the standard alternatives of freedom or death (in service of one’s culture) there is another way, less grand yet demanding just as much courage: the way of ‘creative adaptation.’ This form of creatively constructed hope may be relevant to our Western civilisation as we confront disruptive climate change (Gosling and Case, 2013)” (Bendell, 2017, p. 422).

He divides that effort to become resilient into three separate areas defined by the questions, “What might I retain?”, “What am I prepared to relinquish?”, and “What should I restore?”. He extends that rigorous test to academic endeavour. “When reading others’ research, I recommend asking: ‘How might these findings inform efforts for a more massive and urgent pursuit of resilience, relinquishment and restoration in the face of social collapse?’”
The relevance of Bendell’s Deep Adaptation to the Design Futures framework is that it extends the key principle of “responsibility” at the core of Design Futures to one of urgent adaptation in the interests of survival. “[The current climate emergency] makes redundant the reformist approach to sustainable development and related fields of corporate sustainability that has underpinned the approach of many professionals” (Bendell, 2017).

Bendell, Heidegger, Lefebvre and Fry provide the informing principles that justify the need for a framework at all and influence the design thinking activity of ‘framing the problem’. Their influence is to inject urgency and responsibility for sustainability and social justice into design practice. This demands the re-directive process of pushing back on clients to ensure that the long-term implications of design decisions do not worsen the condition of humanity generally.

Because these informing principles are broad and general, it is likely that they will inform the selection of criteria to measure success but will not be criteria themselves. That possibility will be examined in detail, as we test the Design Futures framework against specific projects.

### 4.7 Conclusion

Re-directive theory and platforming are Design Futures theories which aim to re-direct design thinking to allow designers to fully understand the implications of what they design. What they design impacts upon others as well as creating designs beyond the original concept. Fry has identified this by asking “how do we stop educational institutions inducting their students into a de-structuring knowing” (Fry and Ebscohost, 1999).

It is the assertion of this chapter that we can induct students into a structuring knowing by
demonstrating that a structured approach (a framework) can be used to shape design practice and decisions. The next chapter reviews the frameworks identified and discussed in this chapter and extracts a potential framework from the merged result.

4.7.1 Theories referred to in this chapter

**Deep Adaptation**-Bendell asserts that improving sustainability and reducing our footprint may not be enough to prevent global catastrophe and so professionals need to go further and think through how their practice and its outcomes contribute to the way in which we adapt to the catastrophe which is potentially imminent.

**Ghel’s five Principles** from a lecture he gave in New York at the Van Allen Institute in 2015

1. Stop Building ‘Architecture for Cheap Gasoline’
2. Make Public Life the Driver for Urban Design
3. Design for Multisensory Experiences
4. Make Public Transportation More Equitable
5. Ban Cars

**Economic theories of capitalism**-private ownership of the means of production and their operation for profit.

**Lifestyle theories**-the contemporary urban landscape is almost uniquely riven by social divisions

**Normative theory/urban planning theory**-Mumford idea of organic humanism and Lefebvre ideas on the rights to the city

**Ontology**- We are born into a ‘designed’ world (not into an empty world). This designed world is shaped by us, and in turn shapes us. Whatever we design goes on designing. We design our world, while our world acts back on us and designs us. Ontological design incorporates relational-thinking; close attention to the clusters, networks and connections that form our practice. Design is no longer just about the artefact, it’s about the network that brings it forth and the network it inaugurates once released.

**Platforming** is a strategy that maintains existing economic activity and work culture, while building a new direction and products or services that are based on futuring. The fundamental principle is simply that a change platform1 is built within an existing organization. This can take several forms, like a new shadow company within the company, or a new kind of research and development arm within it. These entities can be given seed support to initiate two transformative activities: (1) researching, designing and developing new products and services to contribute to a
culture of sustainment and an economy based on advancing sustain-ability; and (2) delivering a continuous learning environment for those recruited to work on the platform (which can create knowledge spilling over to the 'parent' organization).

**Redirective practice** is in general terms is any practice redirecting us away from the direction in which we, en mass, are currently traveling (increasing unsustainability) and toward the direction we need to go (the sustainable). More specifically, it is the naming of a common practice to which cultural producers can subscribe through which they share a collective intent that is able to be expressed by different means. Thus, as artists, designers, architects, writers etc we can declare their common aim and their solidarity.

**Reflection in action theory** - Schon and his theory on how reflecting on how practice can be developed, changed or improved after the event has occurred. Used in DF pedagogy

**Social sciences** - relationship between social sciences theory and design theory - the problem of design theory is that it often ‘fetishises’ design: elevating it as a series of cult objects. Approach would be to locate design theory within social science. The thesis suggests that design should be reconceptualised as the interaction between ideology and the production processes.

**Retrofitting** - the mechanisms that planning relies on, such as containing sprawl and creating greater density, simply seek to maintain the status quo and create a ‘perpetual present’. In other words, such approaches will not address the problem. Retrofitting calls for a comprehensive transformation, stating that practices have to be ‘retrofitted’ for transformation to be possible.

**Production of space** – Space in its raw (natural) sense is unmapped and undefined. Space as humans experience is a perception of space, created and used by people to navigate and to provide meaning by which that space is interpreted. The creation of space physically or representationally is an act of power. If we do not actively engage in a spatial practice, then the powerful will create a space for the rest of us to use. In our current society, the owners of capital create space as a commodity from which they profit by charging the rest of us to use it. The world (natural space) is consumed in the process.
CHAPTER 3 – Developing a Design Futures framework

For the purposes of the presentation of the thesis on Authenticity in the City, the Authenticity framework was a standalone development used solely to collate and compare the theories in the literature review with the Action Research carried out through interview with practitioners.

The power of that approach led directly to the consideration that this framework may useful in the larger project of reviewing Action Research carried out to implement and refine Design Futures pedagogy by applying it to real world projects.

That framework does not specifically address the approaches offered by Design Thinking so, although it offers a powerful way to collate and compare the outcomes of different research methodologies (literature review, Action Research, structured interviews) it does not explore the relationship between the design process and the outcomes of that process.

The other frameworks identified in that review of theoretical frameworks used in Urban Planning were the Nightingale Model, Bendell’s Deep Adaptation. This chapter, then, focuses on the transition from the Authenticity framework developed in this chapter to that broader project.

In the process of exploring more general theoretical frameworks and their application to Design Thinking, Anke Buhl’s Design Thinking and Corporate Innovation emerged as a succinct and powerful model that could contain much of the work carried out to date.

The process of mapping these divergent frameworks into a coherent whole has been included in this paper for full transparency to facilitate further research.

Once the framework was extracted it was retrospectively tested against existing Design Futures focused Action Research.

This lays the foundation for a discussion of what needs to be done to iteratively develop, implement and test that framework.

5.1 The Purpose of the Framework –Reviewing the Status Quo

The built exterior/interior environment is a key player in establishing meaning in people’s lives. It shapes the view those people have of themselves and so influences the creativity which they bring to the environment as they inhabit, use and change it. It also provides the physical infrastructure which facilitates the activity that occurs in or on it. As such it is a major influence on the long-term sustainability, viability and humanity of the dwellers in that environment.
The success of the design might be measured in whether it meets the immediate desire of the dweller, whether it supports their long-term experience in all the ways outlined above and also whether it meets the professional objectives of delivering a meaningful, sustainable, viable and just experience envisaged by the designer. It is the premise of this thesis that the designer can determine what their long-term objectives are, but they cannot simply ignore them and claim naively that the consideration of those long-term objectives is not their responsibility.

The built environment contributes to people’s emotions, physical comfort of being, general wellbeing and sense of belonging. Interior designers play a key role in defining and shaping the spaces we live in and therefore have the liability and obligation to create spaces that meet those needs. Butterworth asserts that spaces, places and buildings are more than just props in people’s lives (Butterworth, 2000). They are embedded with deeper personal and cultural meaning and resonance and simultaneously symbolise personal histories, interpersonal relationships, people’s values and sense of belonging. As a basic necessity, buildings should cater for safety and shelter. However, in order to cater for people’s well-being, a place needs to be able to give its inhabitants a sense of belonging and a sense of identity; a place for both privacy and social interaction. We do not merely exist in a physical environment we interact with it, posit it with significance and derive important meaning from it. The aesthetics cannot be absent from our built forms and just like the importance of a defined space, aesthetic qualities of a space reinforce spatial experiences. Encouraging a space to come to live and evoke senses and responses, movement, comfort and control are important to people’s lives.

Environments (spaces) suggest (afford) a range of activities that can or cannot occur. They also evoke feelings. Nasar and Augustin agree and explain that the perceived visual quality of places has powerful effects on human experiences. They can contribute to worker productivity, state of mind consumer behaviour and people’s general wellbeing. Studies show that visual quality is rated highly with people. Nasar and Augustin elaborate that most people give visual quality more importance than other aspects of their surroundings and physical appearance that is inconsistent with the desired image can lead to people avoiding a place. For example, the desired user of a space might avoid the place if it conveys an undesirable meaning to them. Nasar and Augustin give the example of an unfamiliar restaurant. Customers make judgement by entering the space from its appearance which lets them make assumptions about price, food quality and service. These judgements will also influence the behaviour of patrons. Interior designers need to be able to predict such perception and come up with design solutions that convey a desired meaning (Nasar, 2008).

The trained interior designer needs to be able to read how users evaluate the environment and
what meaning potential users may see in it.

A general perception is that the interior design industry has long been regarded superficial in nature. The International Federation of Interior Architects/Designers (IFI), the international body for interior design, struggles to give a clear identity to the profession and continues to debate the industry’s disciplinary definitions and directions. The amateur tag of interior decoration attached to the industry has also been very frustrating for designers globally. In the United States, the use of the title interior design is extensively protected by title, practice and legislation. This restricts the use of title to those who have fulfilled the requirements to be registered and licensed to practice (Designers, 2013, p. 2). To fulfil the requirements, students need to obtain a degree from accredited tertiary interior design programs. Accreditation responsibility lies with the Council for Interior Design Accreditation.

In Australia, interior design practice is unregulated and interior design education is unaccredited. Some Australian universities have changed their programs to interior architecture so as to distinguish their programs from interior decoration and design qualifications offered by the vocational sector (Cys, 2006). However, as Cys explains, the name interior architect is widely used in Europe, but the Architects Act legislation in Australia renders this title illegal for anyone other than a registered architect. As a result, in Australia, anyone can call themselves an interior designer, regardless of educational qualifications. This is perhaps why the industry has lacked identity and has been associated with decoration rather than design and a sense that the visual quality of a space is of greater importance than designing for the human interpretation of spaces. Interior design is perceived by many other professions as feminine, superficial and mimetic in comparison to male, rational and original architecture. It is asserted that interior design is inferior to architecture (Havenhand, 2004).

Interior designers understand that they have a problematic and often misunderstood identity and have worked diligently over the years to legitimize their field; the public perception has not changed. Television shows and glossy decoration magazines perpetuate the image of a feminised, self-expressive, decorative, and superficial kind of interior design, while the myth of a heroic male architecture is continually reinforced in movies and TV shows. “The boundary between architecture and interior design remains in place, held there by a persistent idea of difference between two fields: male vs. female, structure vs. decoration and superior vs. Inferior” (Havenhand, 2004, p. 33).

This uninformed view of interior design confronts the academic discipline each year by the newest cohort of prospective students. They are attracted to the reputation that interior design
carries (decoration). Many students are disappointed to discover a severe abandonment of all that makes that industry so stereotyped. In fact, contrary to its image, most interior design courses offer very little in terms of superficial ornamentation and decoration. Ironically, interior design course content is very similar to architectural studies (i.e. concept design, detail, design, construction and materials, CAD). Gains in a gradual shift of thinking with interior design students does occur for some students during their degree, however, successes are usually short-lived as the industry they enter as graduates is inundated with superficial approaches to design.

Architecture and interior design are seen as an exclusive industry that thrives on iconic design and immediate visual recognition. Interior design students often have difficulties to differentiate between practically applied projects and those who are symbolically meaningful.

To most undergraduate students, the inherent visual effect is so strong that they fail to see the layers that have embedded meaning to a particular design. This is perhaps reinforced by the already mentioned public perception of the interior design profession. As a design educator and researcher on human behaviour and space, I aspire to create change in current interior design education. I actively question a vocationally oriented undergraduate degree approach in favour to one where students are able to think critically for themselves and have an intellectual foundation to use throughout life this whether they decide to go into the design profession or not. The focus in interior design education has to go beyond what is currently taught. There is a need for a transformation of what is taught to consider the designers responsibility for the long-term implications of their design decisions. These implications require an understanding of interiority, inner minds and inner dwellings; the working of consciousness and cultural difference; as well as the environmental, social and economic consequences of design practice.

5.2 Reviewing the framework

The literature review examines four different tabulations of criteria that might be applied to the practice of designing buildings and cities. The first three of these frameworks have been outlined in the previous chapter. This section extracts, compares, formalises and combines those frameworks with an existing Design Thinking framework to develop an emerging Design Futures framework that might form the basis of the transformation this thesis sets out to initiate.

This Design Futures framework will be tested against projects carried out in the Design Futures program, to examine how relevant the framework is to be measuring the long-term implications of a design-practice with a real-world client and an outcome.
5.2.1 The framework thus far

The criteria tabulated in Section 3.3.2 The Successful City is essentially a framework developed to measure the concept of livability. It is largely based on how desirable dwellers find a particular city and so has a significant overlap with the theories discussed in Chapter 1 and 2 with the important caveat that an individual’s desires may be different from what analysis reveals to have positive long-term implications. That framework has been further examined and refined by applying its criteria to the discussions with practicing Urban Planners and dwellers in the Newmarket development (Section 3.3.7). This section examines the relationships between the various elements of these frameworks against Design Thinking and introduces another framework designed to engender sustainable innovation. To test the relevance and usefulness of each criterion, the draft Design Futures framework emerging from that comparison, is retrospectively applied in section 4.3 to a range of projects carried out as part of the Design Futures program. The Common Ground project (section 3.2) provides on of the larger bodies of research re-examined using the emergent framework to further explore its relevance and so refine it. This is performed at Section 4.3.3 below.

4.2.1.1 The Authenticity framework

The Authenticity framework provides a starting point based on the Successful City work which has already been used to map the literature survey and the conversations with practitioners and dwellers considering authenticity.

<table>
<thead>
<tr>
<th>Key Element</th>
<th>Literature Summary</th>
<th>Authenticity in urban culture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connectivity</td>
<td>The organism of the city needs flow but relies on the wellbeing of the organism at the local level</td>
<td>Infrastructure serves the purpose to facilitate experience</td>
</tr>
<tr>
<td>Culture of Collaboration</td>
<td>Authentic collaboration must include the individual and the local</td>
<td>Authenticity is created by shared appreciation. Shared experience is the basis of community.</td>
</tr>
<tr>
<td>Culture of Innovation</td>
<td>Innovate the innovation process around human centred design</td>
<td>Innovation must be nurtured not generated</td>
</tr>
<tr>
<td>Distinctiveness</td>
<td>By definition is local. Protect individual contributors</td>
<td>Ditto (indicating a possible merging of criteria)</td>
</tr>
<tr>
<td>Entrepreneurial Governance</td>
<td>To govern for authenticity manage holistically, build from the bottom and protect the local</td>
<td>The challenge is to resist commodification and alienation without stifling innovation</td>
</tr>
<tr>
<td>Master Planning and Community Design</td>
<td>Ditto</td>
<td>Relationship of the organism of the metropolis to the organism that is the locality</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>-------</td>
<td>----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Quality Education</td>
<td>Embed human centered design principles in elementary education</td>
<td>Embed the planning process that empowers the end user / consumer</td>
</tr>
<tr>
<td>Quality of Life</td>
<td>The actual experience of people in their locality matters most</td>
<td>The individual resonance with the culture is a measure</td>
</tr>
<tr>
<td>Liveability</td>
<td>Identify KPIs based on individual joy</td>
<td>While identified as a criterion for successful urban planning, this could actually be considered as a synonym for the same</td>
</tr>
<tr>
<td>Social Conscience</td>
<td>Measure and avoid alienation. Protect to local. Deliver social justice outcomes</td>
<td>Cherish the individual experience, protect the local</td>
</tr>
<tr>
<td>Sustainability</td>
<td>Incorporate values but allow local interpretation and implementation (inc priorities?) Both the sustainability of the development/city and the city’s impact on global sustainability</td>
<td>Embed values without creating a stifling bureaucracy</td>
</tr>
<tr>
<td>Vibrant Economy</td>
<td>Communities will flourish if allowed. Support and nurture while protecting not controlling.</td>
<td>Find local measures of success. Do not impose growth targets or monetary output as measures of success. Some measures of economic vibrancy may be in tension with sustainability.</td>
</tr>
</tbody>
</table>

**Table 9  Mapping the literature against the Authenticity Framework**

By mapping this list of qualities deemed to make the city successful onto the theories extracted from the literature review, the simple list of criteria is enriched and can be considered meaningfully against other projects. Such a consideration helps establish what the content of the criteria might mean in the context of Design Practice.

**4.2.1.2 The Nightingale Model**

We can extend this mapping to take in the Nightingale Model (Nightingale, 2019), further testing the role of each criteria against a framework used in a contemporary practice.
The Nightingale Model is presented in Chapter 2 as follows.

<table>
<thead>
<tr>
<th>Affordability</th>
<th>Capped profits</th>
<th>Low operating cost by design</th>
<th>Low cost inputs – No marketing, display suites</th>
<th>Covenant – purchaser contracts to pass on affordability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transparency</td>
<td>Project costs revealed</td>
<td>Open governance and decision making</td>
<td>Visibility of capped profits and governance</td>
<td></td>
</tr>
<tr>
<td>Sustainability</td>
<td>Post carbon operations, 7.5+ NatHERs energy</td>
<td>Water harvesting</td>
<td>productive gardens</td>
<td></td>
</tr>
<tr>
<td>Deliberative Design</td>
<td>Design participation by home owners</td>
<td>Purchasers engaged in cost decisions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community Contribution</td>
<td>Create connected communities</td>
<td>Fine-grained and tactile pedestrian experience</td>
<td>Active street frontages</td>
<td></td>
</tr>
</tbody>
</table>

Table 10 Mapping the theory against the Nightingale Model

There are some obvious overlaps between the Nightingale Model and the Authenticity framework that will be a starting point for combining and refining our framework.

4.2.1.3 Design Thinking and Sustainable Innovation

A recent paper by Anke Buhl, Design Thinking for Sustainability (Buhl, Schmidt-Keilich et al., 2019) offers an alternative framework for connecting design thinking to sustainable outcomes. Her paper sets out to explore how designers might implement design thinking with corporate clients to actively achieve sustainable outcomes in the development of innovation. She delineated the outcome dimensions of sustainability-oriented innovation (SOI) and “derived four central challenges of SOI development: (i) the definition of an appropriate innovation scope, (ii) the consideration of user needs and behaviour, (iii) the involvement of a wide range of stakeholders, and (iv) the assurance of actual sustainability effects.”
She is focused on corporate sustainability and limits the scope of her research to innovation rather than the full implementation and ongoing measurement. Even so, she acknowledges that the assurance of actual sustainability effects depends on an examination of the full life-cycle implementations of any innovation. She develops for outcome dimensions “target, life cycle, innovation type, and degree of novelty” and identifies four key challenges for the SOI process: “innovation scope, user needs and behaviours, stakeholder involvement and assurance of positive sustainability effects.” She notes that the first three are challenges of innovation generally and it is the assurance of sustainability which is the additional challenge in creating a framework to ensure sustainable outcomes. It is important to acknowledge that the ability to assure long-term outcomes is a key element in the project of this thesis, namely, to encourage designers to take responsibility for those outcomes.

Buhl then applies the five key principles of Design Thinking (i.e., problem framing, user focus, diversity, visualization as well as experimentation and iteration) to develop “four research propositions, which show that these principles could be suitable to meet the challenges associated with the development of SOI.”

Those challenges and the resulting propositions can be tabulated as follows.

<table>
<thead>
<tr>
<th>Identifying an appropriate innovation scope</th>
<th>“Problem framing” facilitates the definition of an appropriate innovation scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identifying core user needs and behaviours</td>
<td>“User focus” fosters a thorough understanding and consideration of user needs</td>
</tr>
</tbody>
</table>
Involving stakeholders | “Diversity” and “visualization” fosters stakeholder involvement
--- | ---
Assuring positive sustainability effects | “Experimentation and iteration” and “visualization” facilitates the assurance of sustainability effects

<table>
<thead>
<tr>
<th>Cooperative housing main characteristics</th>
<th>Co-housing main characteristics</th>
<th>Related to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advantages</td>
<td>Advantages</td>
<td></td>
</tr>
<tr>
<td>The housing co-operatives own the properties and members own a share but have no equity in their units</td>
<td>Greater cooperation between the neighbours</td>
<td>Affordability, governance,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>They are non-profit: rents are based on operating costs; no dividend or interest is paid and proceeds from liquidation go to similar organisation</td>
<td>Opportunities for the residents to interact and therefore create community.</td>
<td>Affordability, governance, culture of collaboration</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The board of directors holds the administrative and executive power in the co-operative.</td>
<td>residents manage the physical aspects of the neighbourhood as well as the social aspects</td>
<td>Governance, transparency</td>
</tr>
</tbody>
</table>

Table 11 Anke Buhl Design Thinking in Sustainable Innovation

This tabulation will be referred to in this paper as the Buhl Framework.

4.2.1.4 Cooperative Housing

There is also the comparison of cooperative ownership and cohousing in section 3.5 which addresses only a handful of the characteristics that we have already identified. This table was developed to compare the advantages and disadvantages of alternative home ownership models, so it is not surprising that it is primarily concerned with issues of governance and affordability.
<table>
<thead>
<tr>
<th>Security of tenure, affordable rents and involvement opportunity</th>
<th>Economic advantages of sharing resources with other community members</th>
<th>Vibrant economy, affordability, social conscience, community contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>The shares are reimbursed to the members upon leaving at the original amount</td>
<td>Mix of residents</td>
<td>Affordability, capped profits, covenant,</td>
</tr>
<tr>
<td>Rents in housing co-operatives are considerably lower than in private rental; an average of</td>
<td>Concept it is similar to a body corporate in a strata development</td>
<td>Affordability, governance</td>
</tr>
<tr>
<td>20 per cent lower up to 50 per cent in larger towns</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Most co-operatives offer complementary services – childcare, health services, social services, common activities</td>
<td>Security</td>
<td>Community</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disadvantages</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Member do not own real estate</td>
<td>Re-sale value- can be difficult as it attracts a smaller percentage of buyers</td>
<td>Affordability limits vibrant economy</td>
</tr>
<tr>
<td>Shareholders pays monthly/quarterly maintenance fees</td>
<td>Finding tenants can be challenging as the committee needs to approve</td>
<td>Governance transparency</td>
</tr>
<tr>
<td>Shareholders have to undergo a rigorous approval process</td>
<td>Finding a mortgage lender might be more difficult</td>
<td>Governance transparency</td>
</tr>
<tr>
<td>Contribution or share price can be high</td>
<td>Relying on strength of community</td>
<td>Affordability, governance</td>
</tr>
<tr>
<td>Restrictions imposed by corporation</td>
<td>Restrictions imposed by community</td>
<td></td>
</tr>
<tr>
<td>Tenants need to embrace co-op lifestyle</td>
<td>Owners need to embrace co-housing living</td>
<td>Governance transparency</td>
</tr>
</tbody>
</table>

Table 12 Mapping cooperative housing models (Co-operative Housing International, 2017)

This review highlights that governance and economic issues are critical to the long-term

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implications of the built environment and the culture engendered by it. In her analysis of Design Thinking as a framework for delivering Sustainability Oriented Innovation, Anke Bluhm quotes Lubberink to acknowledge that this is a complex undertaking at the limits of what most designers consider to be their responsibility. “However, the development of SOI constitutes a rather complex endeavour, since the corresponding outcomes must meet environmental, social and economic requirements at the same time” (Lubberink, Blok et al., 2017).

The cooperative housing tabulation provides important detail of the nature of governance and equity models but contributes little to the broader requirements of a Design Futures framework. It does highlight the potential for the potential contradiction between the overall notion of affordability and social conscience on one hand, and the desire for a vibrant economic outcome on the other. That issue needs to be considered separately and is drawn out below.

The comparison of various ownership models addresses the detail of governance issues and is beyond the scope of this thesis. It has been retained to inform future research and referred to in the conclusion under the discussion of building on this framework.

4.2.1.5 Jem Bendell’s Deep Adaptation

<table>
<thead>
<tr>
<th>What can we retain?</th>
<th>What are the elements of the status quo that are most valuable in the effort to avoid extinction and adapt to the challenges we face?</th>
</tr>
</thead>
<tbody>
<tr>
<td>What can we relinquish?</td>
<td>What do we need to give up to ensure sustainability? Eg Gold Coast project</td>
</tr>
<tr>
<td>What can we restore?</td>
<td>Nightingale elements: Reusable water, sustainability, tactile pedestrian experience, shared gardens (These offer one possible subset)</td>
</tr>
</tbody>
</table>

Table 13 Applying the framework to Bendell: from Table 2 (Bendell, 2017)

Jim Bendell’s challenge to practitioners to ask three fundamental questions to test if their practice is geared toward Deep Adaptation encompass the entire range of concerns and can be applied to any of the criteria identified in the Authenticity framework. They justify the reasons for developing a practice that takes long term responsibility and for choosing processes in a design practice that encourage long term responsibilities. A specific example might be the
implementation of a re-directive approach. Because of the breadth and fundamental nature of Bendell's questions they are not included as criteria but have been reconsidered in 4.2.3.2 Process below.

4.2.1.6 Jan Gehl’s 5 Principles of a Walkable City

Jan Gehl is an active proponent of walkability as a key means of ensuring livability by enhancing the physical, social and cultural wellbeing of a city's inhabitants. He has elucidated the methods of ensuring this in a wide range of forums. They may be summarised as:

1. Stop Building 'Architecture for Cheap Gasoline'
2. Make Public Life the Driver for Urban Design
3. Design for Multisensory Experiences
4. Make Public Transportation More Equitable
5. Ban Cars (Gehl, 2013)

These are very specific to Gehl's core project of aligning pedestrian activity with livability, but there are two reasons for restating it here. Firstly, Gehl's work provides a case study of a framework of principles that has been widely applied and accepted in mainstream use, often by metropolitan planning authorities. Secondly, they demonstrate that relatively simple and quite specific principles can have a profound effect beyond their immediate focus. In the paper Rediscovering Urban Design through Walkability, Anne Matan writes, “Building from Gehl’s focus on the need to overcome formulistic and automobile-dominated urban planning would enable urban design’s aesthetic and prescriptive based theories to have a new and deeper meaning: sustainable urban design is at its heart planning and designing for walkability” (Matan, 2017).

5.2.2 Combining the frameworks

A first step is to map the Nightingale Model onto the criteria used in Authenticity and the City. In the process of doing this we might start to separate which elements are criteria that we can use to measure success, which elements are processes or approaches that we might use to ensure or enable success and which elements are principles or problem framing issues (as highlighted in 4.2.1.4 Buhl Framework).

The principles are the reasons that we engage in a Design Futures approach and can be taught using the theory presented and analysed in the literature review. The criteria used to measure the long-term implications of a design practice are the measurable outcomes and were the initial subject of the Authenticity research developed in section 4.3.3. It is also important to consider the approach taken by a design practice to achieve these outcomes.
<table>
<thead>
<tr>
<th>Authenticity Framework</th>
<th>Considerations from this research</th>
<th>Nightingale Model</th>
<th>Relevance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connectivity</td>
<td>Infrastructure needs to support flow. Gehl's Walkability (Public life, Public Transport, Ban cars)</td>
<td>Community contribution</td>
<td>Criteria</td>
</tr>
<tr>
<td>Culture of Collaboration</td>
<td>Facilitation of sharing opens cultural opportunities</td>
<td>Deliberative design, transparency Open governance, engage clients</td>
<td>Approach</td>
</tr>
<tr>
<td>Culture of Innovation</td>
<td>Innovative design practice may facilitate innovative culture</td>
<td>Deliberative design, transparency</td>
<td>Approach</td>
</tr>
<tr>
<td>Distinctiveness</td>
<td>By definition is local. Protect individual contributors</td>
<td>Deliberative design, community contributions and transparency. Innovation</td>
<td>Criteria</td>
</tr>
<tr>
<td>Entrepreneurial Governance</td>
<td>Protect local innovation by resisting commodification but nurture entrepreneurship, Allow for economic vibrancy</td>
<td>Open governance, engage, clients, transparency</td>
<td>Approach</td>
</tr>
<tr>
<td>Planning: Master Planning and Community Design</td>
<td>Top down planning must facilitate bottom up. Guiding principles should not restrict innovation and Entrepreneurship</td>
<td>Open decision making, engage clients</td>
<td>Approach</td>
</tr>
<tr>
<td>Quality of Life / Liveability</td>
<td>Identify KPIs based on individual joy and cultural resonance, Walkability</td>
<td>Enabled by adoption of principles.</td>
<td>Principle, Criteria</td>
</tr>
<tr>
<td>Social Conscience / Affordability / Economic benefits</td>
<td>Measure and avoid alienation. Protect the local / Principled economic measures</td>
<td>Community engagement, affordability</td>
<td>Principle, Criteria</td>
</tr>
<tr>
<td>Sustainability</td>
<td>Embed values without a stifling bureaucracy. Enable Walkability</td>
<td>Sustainability</td>
<td>Principle, Criteria</td>
</tr>
<tr>
<td>----------------</td>
<td>----------------------------------------------------------</td>
<td>----------------</td>
<td>------------------</td>
</tr>
</tbody>
</table>

Table 14 Initial integration of the selected frameworks

One element, **quality education**, may be a hallmark of a successful city, but is not a direct consequence of the design practice. As such it is excluded from the emerging framework. Similarly, Livability and Quality of Life have been identified as having a significant overlap for the purposes of this exercise and so have been combined. Culture of Innovation and Distinctiveness also have overlap but Innovation can be treated as an approach whereas Distinctiveness is a measurable criterion that can be stretched to measure Innovation as a precursor for distinctiveness.

The original **vibrant economy / affordability** axes from the Success of the City framework and the Nightingale Model may be viewed as contradictory. The historical aim of urban development has been to maximise economic activity as a measure of opportunity and satisfaction. In contrast, the **Nightingale Model** is driven by affordability, as meeting the drive for economic justice. It specifically provides for engagement by purchasers in design decisions relating to cost, as a mechanism to keep costs down. It also explicitly sets out to minimise expenditure on activities such as marketing and display units that add to the cost without meeting the key objectives of the model. Importantly, the activities thus eliminated, meet the traditionally primary goal of maximising return on investment by maximising profile and thus price. Their elimination highlights the shift in emphasis away from profit for investors, toward affordability for dwellers. Bendell’s Deep Adaptation encourages us to take this further, relinquishing the focus on economic returns to maximise the opportunity to build for survival. As a result, a vibrant economy has been subsumed into Social Conscience, so that the two are approached together.

**Planning** (Master planning and Community Design) has two components. The first is that there must be guiding principles to underpin any Urban Plan and ensure the long term good. That is, in fact, the purpose of this framework and so is redundant as an element of the framework.

The second component is that the masterplan must not preclude or unnecessarily restrict innovation and creative activity and so that has been identified as part of the design approach.

**Affordability, Sustainability** and **Quality of life** are ultimately the purpose of developing and applying a framework to encourage designers to take responsibility for the long-term implications
of their design. Accordingly, those three pervade the entire table and so, they are integrated into the framework is as informing principles implemented by taking a Design Thinking and Redirective Practice approach and measured by applying the criteria emerging as the basis of this framework. As such they are explicitly mentioned as criteria to ensure that mechanisms are identified to ensure that the framework achieves its purpose.

It is recognised that these general principles will have different priorities and significance for different designers. It is not the purpose of this framework to prescribe what position designers should take on each of these principles, merely that they should take into account the role these principles play in a particular project before commencing the design of a solution. This is consistent with the PESTLE analysis as an early step in the British Design Council’s Double Diamond approach (Council, 2015).

While the Nightingale Model actively deals with this tension by engaging the customer in the design process and providing open governance and decision-making practices that allow the customer to influence the application of these principles. In addition, the model itself contains some arbitrary restrictions, the caveat over future sales, is an example. Other design practices might adopt different approaches to managing such potential conflicts in values. Fry’s notion of a re-directive practice has been specifically developed to identify and manage this process.

Jan Gehl’s Five Principles of a Walkable City (4.2.1.6) belong primarily to the principle of Connectivity, with influence on Quality of Life and Sustainability. His work demonstrates the use of evidence-based research in building principles and provides a number of tools for measuring successful outcomes in urban planning. The term walkability has been added to the elements Connectivity, Quality of Life and Sustainability.

4.2.2.1 Principles

The principles that underpin and inform a responsible design practice can be distilled down to Social Justice, Sustainability and Quality of Life or Culture. These are the key principles that inform the problem framing process and stand in for the PEST or PESTLE analysis used by some proponents of Human Centred Design (Council, 2015).

<table>
<thead>
<tr>
<th>Principle</th>
<th>Theories</th>
<th>Elements of Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Justice</td>
<td>Rights to the City, Heidegger</td>
<td>Affordability, Open Governance, Community Contribution, Planning</td>
</tr>
<tr>
<td>Sustainability</td>
<td>Deep Adaptation, Design Futures</td>
<td>Sustainability, Deep Adaptation, Walkability</td>
</tr>
</tbody>
</table>
Heidegger’s work suggests that the absence of the spiritual sustenance of the soul as a separate principle may be problematic, but that is simply noted here, should other researchers take that up. Heidegger’s theory is listed as informing the principle of social justice on the grounds that the exclusion and alienation of First Nations people is a social injustice that means we all suffer from a withering of the soul.

It is also important to note that Bendell’s Deep Adaptation provides a significant ethical and moral task onto the design process as a tool for answering the question of whether a particular framing is sustainable in the face of the catastrophic failure of civilisation. While that does not directly map onto Heidegger’s observations about the soul and our relationship with place it has some resonance. Pope Francis’ description of Climate Change as a major moral dilemma facing Christianity is an example of a major religious figure conflating morality and sustainability through the lens of major catastrophic collapse (Pope Francis, 2015).

The naming of the elements is largely inherited from the Authenticity framework, has incorporated elements of the Nightingale Model and other frameworks identified in the literature review and, so, has evolved. A Vibrant Economy, for example, is now distributed between Entrepreneurial Governance (the facilitation of economic vibrancy) and Affordability (the assurance of equity in distributing the economic benefit). Affordability, in turn, has been identified as a major element of Social Justice and so is not maintained as a separate principle.

4.2.2.2 Approach

It has already been pointed out that Buhl’s framework for applying Design Thinking to sustainability-oriented innovation (4.2.1.5) directly addresses the approach taken by a design practice. Buhl is applying the theory of Design Thinking to Sustainable Innovation and is thus engaged in a similar exercise to Fry in developing Design Futures theory. The first two chapters identify the relationships between these theories and the problem framing aspects of Design Thinking. Jem Bendell’s Deep Adaptation belongs firmly in the problem framing phase of the Design Thinking approach.

Buhl asserts that the visualisation and iteration approach of Design Thinking ensure that measurable outcomes are achieved, and so we can identify our criteria framework as mapping
directly onto her “assurance of sustainability” element.

That leaves Diversity and User focus as the sections of her framework that apply to what we identify as the **approach** section of the emerging framework. She identifies the role of Design Thinking’s visualisation technique as also contributing to the understanding of user needs.

The elements of the emergent framework can be mapped onto Buhl’s work as follows.

<table>
<thead>
<tr>
<th>Buhl mapping of “Design Thinking” to Sustainable Innovation</th>
<th>Elements from Authenticity framework</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Problem framing” facilitates the definition of an appropriate innovation scope</td>
<td><strong>Principles:</strong> Liveability, Sustainability, Affordability</td>
</tr>
<tr>
<td>“User focus” fosters a thorough understanding and consideration of user needs</td>
<td><strong>Approach:</strong> Collaboration, Transparency</td>
</tr>
<tr>
<td>“Diversity” and “visualization” fosters stakeholder involvement</td>
<td><strong>Approach:</strong> Innovation, Entrepreneurship, Planning, Governance</td>
</tr>
<tr>
<td>“Experimentation and iteration” and “visualization” facilitate the assurance of sustainability effects</td>
<td><strong>Criteria:</strong> Connectivity, Distinctiveness, Community contribution, Liveability, Sustainability, Affordability</td>
</tr>
</tbody>
</table>

Table 16 Using Buhl to separate approach from principles and criteria

Design Futures is an extension of Design Thinking, specifically geared toward achieving sustainable, just and culturally rich outcomes. The principles just defined underpin much of the theory used to extract the elements of this framework.

Those aspects of design practice which have been identified as relevant in the literature review include:

- Problem framing
- User focus
- Diversity
- Experimentation and iteration
- Visualisation
- Metroofitting
- Re-directive practice (Platforming)
Those theories which require further development of design practice as an outcome of this literature review include

- Deep Adaptation
- Right to the City

While some of these practices support some of the required approaches to different extents, there is not a simple mapping from one to the other. We might map this relationship as follows

<table>
<thead>
<tr>
<th>Elements from Authenticity</th>
<th>References in literature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culture of Collaboration</td>
<td>Design thinking: User focus</td>
</tr>
<tr>
<td>Culture of Innovation</td>
<td>Design thinking: Diversity, Experimentation</td>
</tr>
<tr>
<td>Entrepreneurial governance</td>
<td>Nightingale: Transparency</td>
</tr>
<tr>
<td>Planning (Master Planning and Community Design)</td>
<td>Facilitated by Design Futures approach</td>
</tr>
<tr>
<td>Social Justice</td>
<td>Nightingale: Affordability, Transparency, Community Contribution, Caveats; Cohousing: Regulation</td>
</tr>
<tr>
<td>Sustainability</td>
<td>Gehl: Walkability, Bendell: Deep Adaptation, Fry: Metrofitting</td>
</tr>
<tr>
<td>Liveability</td>
<td>Nightingale: Connectivity; Gehl: Walkability,</td>
</tr>
</tbody>
</table>

Table 17 Collating elements from Authenticity and Nightingale

To some degree, these practices generally support the type of approaches required to achieve the long-term outcomes of sustainability, liveability and social justice. That suggests that it is more useful to identify what is missing from Buhl’s analysis of Design Thinking to achieve the design approaches needed to develop this framework.

By incorporating re-directive practice as an additional element to Design Thinking’s iterative process that distinguishes the two approaches, we can incorporate that approach meaningfully into Buhl’s framework. Similarly, Metrofitting is a problem-framing exercise (consistent with Bendell’s assertion that we should seek to identify what can, or must, be retained) and can be incorporated into the analysis of the problem.
The Nightingale Model explicitly sets out to incorporate affordability (as a key element of the Right to the City) as an element of their practice. The transparency of governance and the willingness to adopt regulatory and contractual limitations to achieve principles determined in the problem-framing stage are the key elements identified in the detailed analysis above as carrying forward that part of their project.

It may be the case that other approaches to the practice of design emerge to support these objectives, as well as the specific demands of Bendell’s Deep Adaptation. Further research into the relationship between approaches to practice and the outcomes of that practice is required to determine what those future approaches might be.

Design Futures is, therefore, an approach to the practice of Design (specifically in this case Urban Planning and Interior Design) that facilitates the key principles of affordability, liveability and sustainability by fostering innovation, collaboration and transparency. It does this through applying the key principles of the Design Thinking approach: problem framing, diversity, user focus, experimentation, iteration and visualisation. Problem framing is the method that Design Futures uses to ensure the inclusion and application of the principles underpinning this framework. By contrast, iteration is the process whereby re-directive practice drives the design process toward achieving those principles. It is part of the applied practice or the approach that delivers the outcomes during the design process.

User focus and collaboration have many overlapping characteristics, as do diversity/experimentation and innovation. Visualisation is one means of achieving transparency, although the two mean slightly different things.

The key elements of the Design Futures approach may be mapped as follows:

<table>
<thead>
<tr>
<th>Design Futures / Buhl</th>
<th>Authenticity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diversity &amp; Experimentation</td>
<td>Innovation</td>
</tr>
<tr>
<td>Visualisation</td>
<td>Transparency</td>
</tr>
<tr>
<td>User focus</td>
<td>Collaboration</td>
</tr>
</tbody>
</table>

Table 18 Simplified summary of merging existing approaches.

It is important to note that Design Futures and its related theories create an approach to design
that deliberately integrates the problem framing and the iterative process of applying feedback from the user into the design process. The separation of these criteria in no way suggests that the process itself should be separated, just that these long-term outcomes, identified in the Authenticity framework are naturally achieved by the existing Design Futures practice.

4.2.2.3 Criteria

By mapping the elements of the Authenticity framework that have been identified as requiring measurement as part of the design process against the theories and elements of the design practice that have already been identified as belonging to them it is possible to suggest some measures that may be used to develop these criteria.

<table>
<thead>
<tr>
<th>Authenticity</th>
<th>Design activities</th>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connectivity</td>
<td>Deliberative (human centred) design, Transparency, community connection, focus on connectedness to external objects and systems</td>
<td>Demonstrate connections specifically facilitated by design</td>
</tr>
<tr>
<td>Distinctiveness</td>
<td>Create for and focus on specific users and location, Deliberative (human centred) design, Open practice</td>
<td>Identify unique characteristics (culture and activity) facilitated by design</td>
</tr>
<tr>
<td>Entrepreneurial Governance / Economic benefits</td>
<td>Transparency, Affordability, Community contribution</td>
<td>Robustness of local economy, localness of economy</td>
</tr>
<tr>
<td>Master Planning and Community Design</td>
<td>Transparency, community engagement</td>
<td>Frustrations at / celebrations of regulation</td>
</tr>
<tr>
<td>Quality of Life</td>
<td>Transparency, Community Connection</td>
<td>Walkability, Public activity</td>
</tr>
<tr>
<td>Social Justice</td>
<td>Affordability, Transparency, Community Connection</td>
<td>Cost of living / satisfaction ratings / crime rate</td>
</tr>
<tr>
<td>Sustainability</td>
<td>Sustainability</td>
<td>Consumption and waste of energy, water, sewage, resources</td>
</tr>
</tbody>
</table>

Table 19 Raw elements of existing frameworks that belong to the Criteria group

Some measures will be relevant in the design process and some in measuring the long-term
implications. The former will be tested in this document against Design Futures practice carried out by the author with students. The latter will be separated as part of the definition of ongoing research required to further refine and develop this framework.

It is notable here that many approaches to design practice are relevant to achieving a range of outcomes matched to different principles. For that reason, I will not attempt to map them directly onto specific principles and the criteria that measure them.

We see here that quality of life is a broad collection of criterial that might include connectivity (Gehl’s walkability) and distinctiveness (innovation) As the approaches of collaboration and diversity also focus on these outcomes, it simplifies the Design future framework to match the criteria to the principles.

<table>
<thead>
<tr>
<th>Principles</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of Life</td>
<td>Walkability, Public activity, Connectivity, Distinctiveness</td>
</tr>
<tr>
<td>Social Justice</td>
<td>Cost of living / satisfaction ratings / crime rate / Entrepreneurial governance, economic benefits/ community engagement in master planning</td>
</tr>
<tr>
<td>Sustainability</td>
<td>Consumption and waste of energy, water, sewage, resources</td>
</tr>
</tbody>
</table>

Table 20 Criteria for measuring success in achieving principles.

5.2.3 The Design Futures framework

Emerging from this analysis is a framework that has three separate parts to serve the separate functions of informing our practice, the practice itself and measuring the outcomes of that practice. In pedagogical terms this maps roughly onto theory, practice and measurement.

We can put all this framework together to create the Design Futures framework as follows

<table>
<thead>
<tr>
<th>Buhl</th>
<th>Scope</th>
<th>Stakeholder Engagement</th>
<th>Needs analysis</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design futures framing</td>
<td>Problem framing</td>
<td>Diversity, Experimentation</td>
<td>User focus</td>
<td>Visualisation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Iteration</td>
</tr>
<tr>
<td>Perolini</td>
<td>Principles</td>
<td>Practice</td>
<td></td>
<td>Performance</td>
</tr>
<tr>
<td>Sustainability</td>
<td>Innovation</td>
<td>Collaboration</td>
<td>Transparency</td>
<td>Compliance, Consumption, Waste</td>
</tr>
</tbody>
</table>
This framework simply embeds the key principles of Environmental Sustainability, Social Justice and Quality of Life in the problem-framing exercise at the beginning of the design thinking process. That is consistent with existing approaches, such as PEST and PESTLE, to ensure external factors are taken into account. This framework then uses a variety of criteria to measure the outcomes as the iterative process continues. The design approaches used to ensure stakeholder engagement, innovation and transparency are employed to deliver positive results, but are not directly tied to specific criteria. Thus, the Design Futures framework is consistent with Design Thinking and incorporates the theories and frameworks discovered through the literature review.

5.2.4 Mapping the inputs

For the purpose of mapping the evolution of the framework, Table 4.2.4 shows the relationship between the Authenticity Framework, the Nightingale Model, the Buhl Framework and the Design Futures framework. This facilitates the mapping of the literature review and interviewers’ comments that have already been mapped to the Authenticity framework.
5.3 Applying this framework

Having extracted a possible framework, the next step is to test it by applying it to the Action Research carried out as part of the ongoing Design Futures project. These research projects had already been carried out by the author and other design practitioners engaged in the Design Future project. Further Action Research carried out with students will be considered in section 4.4 in the context of using the framework as the basis of educating designers.

1. The purpose of examining the Action Research in the context of the framework is to explore the fitness of the framework as a mechanism for measuring the attention paid by the designers to their long-term responsibility. There are two methodological points to make here:

2. The framework is the subject of this thesis and so its usefulness is under examination as opposed to it being applied to examine the success of the projects themselves.

3. The framework is designed to be used iteratively to guide first the planning process that identifies the problem and then iteratively to ensure that the Design Thinking processes employed by the designer achieve the outcomes and then finally to measure and monitor those outcomes in use as feedback for future design. Because the framework is examined here by retrospectively applying it to completed projects, the impacts of its iterative application are beyond the scope of this thesis.

The projects below have been selected because the projects were part of a Design Futures course and their brief was aligned to one or more of the principles identified in this framework and so, to some extent, used Design Futures approaches. This process should test:

1. the internal consistency of the framework
2. influence of the framework on practice and methodology
3. further research required to strengthen and implement the framework

5.3.1 Gold Coast 2: Master Plan Ideas Competition 2009

Participants: Jim Gall, Professor Tony Fry, Petra Perolini, Nora Kinnunen, Rae Cooper
‘Gold Coast 2’ – Supplementary Award Winners for a collaborative submission with Gall & Medek Architects, Professor Tony Fry and the Griffith University Queensland College of Art Master of Design Futures Program.

The competition brief was to develop ideas for a master plan of the existing cultural and civic centre site at Evandale, a central Gold Coast location surrounded by the river. Instead of providing a neat master planned solution to the existing site, our submission addressed the competition brief with a more radical approach with the reconceptualisation of the Gold Coast from 2050 into the future. We believed it more appropriate, responsible and constructive for the Gold Coast City Council to abandon the focus on redesign of existing sites and rather redirect their efforts toward actions to secure a viable future for the whole region. We advocated a proactive long-term ‘city move’ approach rather than reactive short-term solutions.

![Figure 20 Gold Coast Cultural Centre. Image credit Jim Gall, project team member](image)

We began with the premise that the current and future threats imminent for coastal cities such as the Gold Coast, stretched thinly along low lying topography, require immediate and appropriate response. We proposed that the (existing) Gold Coast 1 was a city under threat and was in need of change, and that in order to have a viable future, the way we site, develop and live in cities...
had to be transcended. Gold Coast 2 would be a city which had explored and realised sustainable options which cast the city into a position of global leadership. This includes that most of the city has to move, its economy restructured and new imaginings for Gold Coast 2. We identified the process as long-term requiring a creative planning process and community engagement as spanning over several generations.

We developed concepts for a satellite city to which new industries such as houseboat construction, urban food production and fish farming would be established. Over time, a gradual retreat would take place from the old to the new, while the new industries are established. While the old is destroyed gradually, it remains as a strong symbolic dimension wherein the memory and story of the rise and transformation of the Gold Coast could be told. The Gold Coast archipelago, a sheltered floating suburb, would house floating homes which are plugged into service conduits. This type of dwelling forms the major focus of the research and development process which would underpin the establishment of a major new industry.

Woven into these elements are a number of economic and cultural drivers, e.g.: The Multiversity and the Inter-cultural Resort. The Inter-cultural resort is aimed at showing an emergent global post-national culture that would be essential in avoiding the conflict that the unsettlement from climate change could create. It would do this by showing positive cultural futures as pleasurable experiences, new knowledge, entertainment and adventure. It would export this content and message locally and to the world.

The Multiversity would generate trade on the knowledge developed to make the ‘city move, new economy, new culture’ experience, together with creating the knowledge needed to live, work and survive in a world with changed climate conditions. After we were awarded supplementary winners, we presented this submission to students, academics and government/council representatives at a public talk at Griffith University QCA. The public talk was recorded, and the story and interviews were aired on Antony Funnell’s ABC Radio National Future Tense program ‘Climate change and our coast’ (Funnell, 2009). I also re-presented the project at a Circular economy forum at Griffith University in May 2019.

4.3.1.1 Reflections of the Gold Coast competition in the Design Futures framework

Because the project was a competition and the submission was awarded but not implemented, the measurement of outcomes using the framework is speculative. The project was designed specifically to ensure the well-being of the population, who will obviously experience a better life on dry land than under water. As a speculative project though, that has not been assessed.
The assumption behind the project to move the Gold Coast away from the low-lying coast to the hinterland is that such a move will avoid catastrophic collapse of infrastructure and the commercial, social and cultural life supported by that infrastructure. While that can be framed in the general principles of the emergent framework, the consideration is specifically considered in the context of Climate Chaos, that we have included in Sustainability. It is a perfect example of the Deep Adaptation that Bendell highlights as needing to inform our future design decisions.

In this case we decided to relinquish the coastal location and built infrastructure while retaining cultural cohesion and the global functions of knowledge transfer through the Multiversity.

In Principle (the planning stage):

Environmental impacts (climate change) was considered as an input and its impact on social justice and culture was taken into account under the heading of economic and cultural considerations.

The project predates but emulates Bendell’s Deep Adaptation because it considers what we must give up, want to retain and can recover. These underpinning principles are only included in the framework under the heading Deep Adaptation and highlight the need for additional detail in its implementation and application.

The process applied to that involved experimentation and visualisation to generate an innovative response. This is a strong example of redirective practice, guiding the client away from some of
their assumptions which appear destructive when viewed through the lens of Design Futures and the long-term implications of the design practice.

In Practice (the design process):

As pointed out in the introduction to this section, the retrospective application of the framework to the project precludes an examination of the impact of the framework on guiding those iterations. This comment will not be repeated for future projects even though it applies to them.

What we can see is the importance of those elements of the Design Thinking process on the project’s success.

Innovation and diversity are key elements of this project and almost certainly played a significant role in earning it an award. Experimentation implies iteration and, as already commented, cannot be inferred retrospectively. Because the innovations were applied to solve a ‘wicked’ problem identified at the planning stage, it highlights the need to approach the framework holistically. Innovation and diversity for their own sake are not virtues, they are processes to be harnessed to achieving specific outcomes identified in planning.

The cost of the project, then, is not measured in terms of its benefits, but the cost of NOT doing it. As such the economic benefits are not directly measurable. The economic benefit in the emergent framework, then, need to ask the closed questions, is it affordable, is the client engaged in the costing? What is the cost of ownership? Who pays that cost? as well as the open-ended questions, what are the socio-economic implications? How is future speculative commercial activity around the designed object/space/product managed?

In Performance (the measurement of outcomes):

This project focuses on community well-being and public-life. It is fundamentally a survival mechanism and so is driven by economic well-being. As a competition regarding the cultural centre, clearly a lot of other considerations have been taken into account and would drive the larger design process.

This highlights the importance in planning further research with real projects approached with a specific brief to test this framework.

5.3.2 The framework and Common Ground
The interviews with Common Ground residents and management provide a mechanism whereby we can review the relevance of the key principles and the criteria by which we propose to
measure outcomes. This is an important contrast to the previous two projects. In this case, even though the framework is being applied retrospectively, we are able to consider the success of the outcomes based on the content of the interviews. Again, the framework is the subject of this thesis and so this consideration considers how well the framework maps the success, not how successful the project has been.

<table>
<thead>
<tr>
<th>Principles</th>
<th>Practice</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustainability</td>
<td>Innovation, Diversity, Experimentation</td>
<td>Compliance, Consumption, Waste</td>
</tr>
<tr>
<td>Social Justice</td>
<td>Collaboration, User focus</td>
<td>Affordability, Well being Community contribution</td>
</tr>
<tr>
<td>Quality of Life</td>
<td>Transparency, Visualisation</td>
<td>Satisfaction, Public life, Walkability</td>
</tr>
</tbody>
</table>

Table 24 The Design Futures framework and Common Ground

**Social Justice Affordability**

In Principle (the planning stage):

Affordability was a key objective of the project and encompassed quality of life; liveability and a social conscience were the major concerns of the initial brief.

**Social Justice – Community contribution**

This project is designed to give back to the community, however, the integration of the dwellers with the surrounding community into the facility is widely commented on as the greatest challenge for the project. (See also Collaboration, below)

**Quality of life**

Residents clearly recognise that they have been given a great opportunity and appreciate that. The stark difference in socio-economic status between them and their neighbours, however, remains a divisive factor.

**Sustainability**

This project was NOT fundamentally driven by a desire to achieve Sustainability. It is possible that environmental sustainability and social justice underpin different agenda and that further
work is required to treat these holistically.

In Practice (the design process):

**Transparency**

The partnerships between government, industry and charity encouraged transparency in planning and governance. The ultimate dwellers were not as involved in the planning process as the Nightingale Model might suggest. This raises the importance of emphasizing perspective in the implementation of the framework. From the point of view of the planners and developers, the process has been unusually transparent, but it has not been dweller-centric. In hindsight we can see that the failure to incorporate the dweller’s perspective has reduced the social justice outcomes delivered by the project.

**Innovation / Diversity**

The project is considered innovative in its general approach but did not explicitly set out to engender, facilitate or empower innovation on the part of its stakeholders. Similarly, the planners are proud of the diversity of stakeholders who participated in creating the project (government, industry and charity), however, the engagement of stakeholders was limited. The relationship between transparency, diversity and innovation needs to be emphasized in the application of the framework.

**Collaboration**

The observation that community engagement with the available assets could have been improved by earlier engagement indicates that collaboration did not fully take place and so emphasises its importance. Residents are not as connected with community as they hoped. Community is not using the assets as planned. Lack of deliberative design and user focus appears to be a possible reason for this. Again, collaboration overlaps significantly with transparency and diversity, reinforcing the holistic nature of the framework.

**Summary**

As a housing project designed specifically to deal with social justice issues it is not surprising that there are good correlations between the processes and concerns of the Affordability axis and that the Sustainability axis has been largely ignored.

This raises three issues:

1. The selection of the access is independent of the use of Deep Adaptation to the
application of the principles to the design brief. Deep Adaptation does not guide the selection of the principles but the application of them.

2. The emphasis on social justice as the primary principle guiding this project did not automatically lead to the adoption of the transparency, diversity and collaborative components of the Design Thinking process.

3. In part the failure in process was due to the lack of focus on the end-user (the dweller) but it also highlights the arbitrary nature of the relationship between guiding principles and applied process.

5.3.3 Reflections on application

This retrospective review of existing projects using the framework emphasises the holistic nature of Design Futures and Human-Centred Design. Perhaps counter-intuitively it also reveals the arbitrary relationship between those components. Design Futures is a holistic approach to using design thinking to solving real world problems but that holism must be nurtured and developed, not assumed to be implicit.

In principle, during the planning stage, the emphasis on particular principles (social justice, environmental sustainability, quality of life/culture) is independent of the use of Deep Adaptation as a method of applying those principles to the design brief. The framework specifically sets out to highlight the independence of principles, process and outcome and may need further refinement to capture some of the wisdom that emerges in its implementation.

In practice, the Design Future processes are developed to achieve particular principles but in some cases the principles underpinning those processes have been implicitly assumed. The analysis of diversity or innovation in the Common Ground case study clearly illustrates this effect.

A specific example of this general principle is the assumption about what diversity means, which unintentionally led to a group of stakeholders who usually do not collaborate designing a solution for stakeholders who were not at the table. As a result, the project celebrates the diversity of stakeholders engaged in designing the project while eventually having to recognise that the key stakeholders (the residents and the surrounding community) were not as engaged as they could be and as a result remain somewhat alienated from each other.

This emphasizes the value of user centricity in Design Thinking but reminds us that principles (intentions) do not automatically lead to effective process or outcomes. The road to hell is paved with good intentions.
The role of collaboration, for example, has a body of evidence that leads to the widespread understanding of the relationship between collaboration and resilience, but that is not necessarily reflected in outcomes. This is discussed further in 4.4.5 below.

**In Performance,** it becomes apparent that the criteria selected to measure whether the principles have been achieved may also diverge from the processes used.

If anything, this analysis indicates that the importance of the process must be a major emphasis of the promulgation of Design Thinking. If the framework is to assist in that role, then it must promote rather than undermine that focus.

In general, the framework appears to capture the elements of Design Futures reasonably comprehensively. It is apparent, though, that the underlying detail needs to be made explicit. Specifically, the pedagogy used to promulgate the framework needs to emphasise the relationships between the framework and:

- the theories on which it is founded
- the approaches used in a design practice, and
- the metrics used to evaluate the criteria

The review of how it has been taught over the last decade that forms the basis of the next section will go some way to identifying that detail.

### 5.4 Re-educating Designers

So far this chapter has extracted a framework that is consistent with Design Futures theory and highlighted requirements for it's application through Action Research carried out on professional projects. It is now useful to review the manner in which the framework might be used in the education of designers to embody Design Futures thinking.

That research has been carried out using real world projects for external clients for three reasons. The primary reason is to present the theory in action and take it off the whiteboard and into practice. A secondary reason is to identify those areas where Design Futures goes further than existing expressions of Design Thinking and highlight for students what those differences mean in the real world. A third reason is that the importance of long-term thinking has become increasingly urgent as the impacts of climate chaos become more evident and the failure of the liberal-humanist contract sees the political landscape swing to populist movements based on short term self-preservation. This student focused action research then is geared to deliver practical experience, a precise evaluation and the political context of Design Futures.
That research has been carried out as a retrospective application of the framework to the Action Research as a matter of necessity: The framework was developed after the Action Research. The limitations of that methodology have been discussed elsewhere, the importance is that significant progress has been made in identifying aspects of the pedagogy that are important in the successful teaching of Design Futures.

The first step in this process is to extend the literature review to incorporate some of the theories that influence existing pedagogy as much as design practice.

5.4.1 Spatial practice

Lefebvre’s philosophy seeks to create awareness of social space as produced by the state and by capitalism. The presence of Social Justice as a fundamental principle in Design Futures theory is driven by this analysis of power. As already noted, Lefebvre’s concern is that capitalism will create space that turns us all into labourer-consumers and the world into pure resource (Lefebvre and Donald, 1991).

As the space experienced by dwellers, representational space is the field that connects the user-focus of Design Thinking and the long-term implications of design outcomes. Lefebvre’s analysis of representational space provides one piece of evidence that a line drawn by a designer has a direct influence on the experience of the user or dweller.

Conversely, representations of space demonstrate the abstraction implicit in the technical interpretation of design practice. Technical skills remain central to design practice even if they are embodied and embedded in the Design Futures framework. Visualisation is the abstraction element of Design Thinking and Lefebvre’s analysis should be kept in mind when discussing the application and usefulness of visualisation.

Lefebvre’s definition of spatial practice is a precursor to the development of Design Thinking and thus Design Futures. The practice of innovation, through diversity, experimentation, user focus and iteration are a formalisation of spatial practice specifically designed to address Lefebvre’s concerns.

5.4.2 Interiority – We Live in a between the Exterior and the Interior

In 1985, C.J. Hewlett called for ‘a theory of human nature unique to inhabitation that is sensitive to human beings as psychological phenomena rather than objects and can deal with life in its wholeness as well as its fragments’ (Hewlett, 1985, p. 11) (Gano, 1999, p. 1). Aware of the
limitations interior design offers to the experience of inhabitation, Hewlett suggested developing a greater understanding by applying a variety of approaches to interior design. In his view, one way of achieving a better outcome would include ‘altering the consciousness of the designer’ to aim for a design that challenges the imagination and offers emotional rewards regardless of its pragmatic duty (Hewlett, 1985, p. 10). He further stated that interior design’s most serious purposes are not visual, technological, object oriented, or materialistic, but rather those of interiority. Interiority can be defined as a process within a person that reflects an individual’s unique awareness of the world and a psychological relationship to the world that is meaningful in ways specific to individual consciousness. Such processes include the need to inwardly reflect on one’s own life experience and to understand this experience in a way that is supported by language, allowing for communication of personal experience with others (Ganoe, 1999, p. 2) (Parry, 1991).

5.4.3 Metrofitting

Currently architects, planners and urban designers are not educated to attempt the named transformative approach (Metrofitting) of adapting our existing cities and prepare them for the future. As professionals they are trained to function and to exist in a narrow disciplinary field. Often, they only consult with other design professionals within limited and instrumental contexts — which is to say that they do not learn to view and engage with the city’s relational complexity (Perolini, 2009). As such, they see the city and engage with it pragmatically and technically. In terms of affirmative change, the division of knowledge of their specific disciplines intellectually restricts them and, in this aspect, Metrofitting requires a new kind of architecture, design and planning education liberated from past priorities and preoccupations (Perolini, 2009). In addition to a new educating approach for professionals in the fields of architecture, planning and design, what is required is a design agenda and practice beyond service provision — Metrofitting is a domain of designer leadership.

A position paper written as part of a Master course requirement at Griffith University in 2009 on ‘Retrofitting Cities’ outlines a number of strategies necessary for implementing the concept of Metrofitting. Overarching, Metrofitting requires a level of activism currently absent in design practice and culture (Perolini, 2009). While able to be viewed as the politicisation of design it also needs to be seen as a domain of economic opportunity and as a context in which all the design practices can realise a greater potential. This means for design and designers to be less preoccupied with style but to engage on a heightened level in social and environmental responsibility. Together this has the potential of making design practices powerful drivers of sustainment, a term used to describe the role of design and the responsibility of designers to
facilitating the ability to make and sustain viable futures (Fry, 1999). In contrast to environmental building rating systems and green building initiatives, what is being identified here is a comprehensive approach that engages absolutely every area of urban structure - form, sociocultural fabric, economy and use (Perolini, 2009).

In contrast to existing ways of designing that only address symptoms of unsustainability, and thereby so often act to maintain the status quo, Metrofitting approaches change based on ‘futuring the city’ in terms of what it will have to confront and deal with in coming decades. ‘Futuring’ is a term used by Fry (1999) to explain a different design practice, an alternative method needed to negate the current ineffective, weak and fragmented approach taken by industry professionals and to expand and become a more ethical and professional practice able to respond to ethical, political, social and ecological concerns of today and tomorrow.

However, the starting point is not with the city itself but with those practices that bring it into realization and animate it. Put simply, for cities to change and be able to become thriving urban centres offering sustainable, functioning and livable communities, the existing practice model has to transform.

5.4.4 Redirective Practice

Similarly, redirective practice is the existing discipline of engaging designers in the long-term implications of their design. It specifically sets out to apply the principles of Design Futures to ensure that designers influence clients.

As such it offers fertile ground in which to develop a framework that formalises the outcome of that experience. As such, this section will review the current experience of redirective practice and then some specific projects to explore the relevance of the emerging framework in reality.

The concept of re-directive practice is not detached from established design practices but is a turning towards a focus of designing a way of engaging design and sustainability/unsustainability relationally. Fry (2007) defines re-directive practice as “adaptation in face of what has to change to counter the unsustainable; the elimination of what threatens sustainment by designing ‘things ’away; and prefiguration, which is designing in order to re-detractively deal with what is coming.” Metrofitting a city would name a re-directive project. So, while changing a city through Metrofitting seems and is, an extremely complex and enormous task, the following questions thus arises: who are the practitioners willing to rise to the challenge? Who is going to get involved? Who will lead? Who will be the catalytic leaders of the change community? Realistically, most projects that would be of
interest to re-directive practitioners need to be initiated by the practitioners themselves. Every project affords the means to gain new knowledge. Every project arrives as an experimental learning exercise. With more knowledge and more exposure, existing clients would be re-directed, new clients created and the environmental and economic benefits of a re-directive approach realised.

What is being suggested would be totally unrealistic if it were not based on the assumption that the issues of unsustainability are already present in most cities and that the imminent situation, climate change and the effects it will have on towns, would contribute to them. As the history of the architecture of the modern movement affirms, urban dreams so quickly can (and have) become disasters. In the face of this situation, Metrofitting and re-directive practice make one clear and powerful statement: act now rather than waiting for the problems to arrive. Metrofitting provides a conceptual and organisational approach that invites engagement by the varied policy, planning and design elements of government, industry and community — this so they may take broader responsibility for the coming situation (Fry, Kinnunen et al., 2009) The cost of doing so will be significant, but negligible in comparison to allowing an ad hoc response to occur (which would effectively mean giving way to breakdown and crisis management.

The mess in our urban centres that is unsustainability in large part, arrived by urban design, architecture and planning and the only way to overcome this situation is by design becoming a re-directive practice as the basis of leadership by design.

5.4.5 Collaborative Practice

Collaborative outcomes require a collaborative practice. While the internet and the peer-to-peer communication it has enabled make collaboration possible in new ways, it has actually reduced the amount of time that teachers and students spend collaborating in the classroom and the studio.

There is a significant body of work outside teaching and design theory that relates collaboration to resilience, this research goes beyond that to look at how its implementation may be addressed within a Design Futures course.

4.4.5.1 The cathedral and the bazaar

The Doomsday project is a monolithic seedbank, in part funded by the Bill and Melinda Gates Foundation, designed to preserve ten percent of the seedstock for the world’s food in a frozen bunker deep underground near Iceland (Qvenild, 2008). Interestingly, it has recently run into problems because of unexpected impacts of climate change altering the temperature profile of
the environment in which it operates. Tellingly, that is a typical problem of centralised systems that depend on stable inputs to ensure ongoing stability.

The Global Seedbank, on the other hand, is a community project designed to share seeds between individuals in communities, between communities and between bio-regions, to ensure that there is always as much diversity in the active seed stock being planted and harvested around the world (Ronnie Vernooy, Bhuwon Sthapit, Gloria Otieno, Pitambar Shrestha & Arnab Gupta, 2017).

It is specifically designed to be distributed and flexible, with no central decision-making mechanisms and an organic flow of information between autonomous seed savers. That approach is designed to create a robust model that will survive whatever catastrophe befalls individual regions and countries.

The comparison of these two projects can be aligned with the assertion of Eric Raymond in *The Cathedral and the Bazaar*, (Raymond Eric, 1999) that monolithic attempts to centralise and control knowledge are vulnerable to ossification and corruption, whereas organic, market-based processes lead to diversity, organic growth and so stability of a different kind. One sacrifices certainty and control for vitality and robustness.

While a cursory comparison of those two approaches does not provide sufficient data to assert that the deliberative design and community contribution (the Bazaar) will always work better than command and control approaches (the Cathedral) it is apparent from the arbitrary inclusion of the rules around user engagement that such an assumption is built into the Nightingale Method.

Again, this reiterates the importance of the holistic nature of Design Thinking, Human Centred Design and this framework. Any individual principle, approach or criteria followed in isolation to its logical extreme, creates a lop-sided and undesirable outcome.

Given this support from outside education and design theory for collaborative approach it seemed self-evident that a collaborative practice should have positive outcomes.

### 4.4.5.2 The virtual studio

Action Research was carried out in 2018 and 2019 to examine the enablers and obstacles to recreating a collaborative practice in the digital environment. The role of collaboration in Design Thinking is fundamental to its user-centred focus and so practical steps must be taken to ensure that it does not simply disappear because educational practice is distracted by digitised delivery.
In spatial design education, the nature of studio-based learning is inherently feedback-rich due to its dialogic nature (Schön, 1985, Anthony, 1991). Schön (Schön, 1985) regarded the conversational exchange between tutor and student and student to student in a formal and informal learning setting of high pedagogic value in design education. The idea and culture of the studio underpin most design education and practice. It is a concept and context for working in design that is informal, motivating and supportive. A studio is an open environment where individual or groups do visually centred work. It is a space that allows students to engage with and inspire each other beyond the parameters of formal classes and where novice designers obtain knowledge and practices from their peers (Nicol, 2000). The design studio pedagogy is typically defined as “learning by doing”, and the sessions are organised around project-based learning (Cuff, 1991). The projects are planned of manageable scales, individually or collectively, simulating the actual practice as closely as possible. Spatial design studio learning embraces many forms of representations, including studio crits, formal and informal feedback, reflections on designing, access to industry representatives (Cuff, 1991).

Since the mid-1990s, the studio learning experience has changed as a result of significantly reduced contact hours, larger student cohorts and a lack of designated studio space. Students no longer have dedicated space to learn in and, with a reduction of contact hours, the studio culture has considerably changed its dialogic nature and hence the learning experience for visually centred work.

At Griffith University, formal direct student contact in a class environment has halved from 70 contact hours per semester in 2000 to 36 hours in 2019. Further, peer interactions and socialised learning outside the classroom have almost totally disappeared in the 21st century due to the changing nature of tertiary educational practices in a dynamic market. Evidence suggests, however, that students in fields traditionally depending on studio-based pedagogy, struggle to master diverse skill sets, or to deal with confrontational formative feedback and heavy and often complex project workloads. There is not enough time in the classroom to actively engage with problems and learn through the sharing of ideas, discussing problems and prototyping. In addition, the lack of informal dedicated studio space, where a cohort stays on campus, working on projects and receive informal feedback from peers and visiting academics on a regular basis supporting them in specific critical aspects of the studio culture has taken a toll on positive learning outcomes (Cuff, 1991, Nicol, 2000).

The issues with the current studio teaching methods include the combination of mastering diverse skill sets, absorbing formative feedback and coping with the expected workloads. A recent Griffith University student survey revealed that students want to feel engaged and feel
connected to their peers and to their faculty staff and tutors and to the place where they learn. Student engagement, first implemented in 1984 by (Astin, 1999) as student engagement, was originally described as ‘the quantity of physical and psychological energy devoted to educational practice by the student’ (p. 518). Since then, there has been a lot of discussion about the significance of student involvement (Trovler, 2010, Owen and Dunne, 2013); (Trovler, 2010). The Griffith Virtual Studio resulted from research indicating that the essence of the design studio is translatable to online learning. The opensource Hypothes.is software, which acts as a text-based conversation layer using any web site, enabled a quick and easy implementation of the Griffith Virtual Studio (GVS). Students were asked to sign up to Hypothes.is and join GVS and register a link to their blog. A pilot study over 12 weeks was conducted with seventy final year spatial design students in semester 1/2019. Comparing the reviews of the literature with the observations and survey results of this study, this paper argues that there is an urgent need to reintroduce a studio culture where a rich social dynamic and peer interactions and socialised learning can be developed.

The observations and results from an online survey will be discussed in the following chapters and provide important information to refine the GVS pilot study for future implementation into the course.

4.4.5.3 The Design of the study

This study results from the receipt of a modest teaching and learning grant to investigate the declining studio culture in the Griffith University Spatial Design Major. A notable regression in student’s ability to meet learning objectives prompted the researcher to investigate the consequences of changing studio culture in spatial design education. Several factors were considered, including student’s availability to stay and work on their projects on campus, the loss of physical studio space and the reduction of formal contact hours. The literature review indicated that some aspects of the design studio are in fact, translatable to online learning. The pilot study involved the design of an online studio to encourage peer interaction in the form of various kinds of dialogue that typify studio-based learning, aiming to provide guidance, direction, and reflection during the trial. The study also included a student survey conducted at the end of the trial phase. The study adopted an ethnographic approach, gathering data on student perceptions over the course of an academic semester, and utilising methods embracing both quantitative and qualitative data.

The pilot study included the design and development of an online studio named the Griffith
Studio, an online annotation platform for 70 final year spatial design students over 12 weeks. The study involved students creating their blog URL of choice and sharing it on Blackboard. The blogs contained their individual design processes of the term project. Students were also asked to sign up to the Griffith Studio used Hypothes.is, open-source software which allowed students to annotate their blogs collaboratively (Whaley, 2011). Students were encouraged to comment on each other’s progress throughout the semester, share resources and informally critique each other.

4.4.5.4 Objective

The project sought to analyse the effective use of the Griffith Studio for a semester, to draw conclusions that are of general relevance to spatial design educators. The findings will enable the future development and adoption of an approach that enables online informal course structure and delivery.

4.4.5.5 Population and Sampling

A pilot study involving 70 final year spatial design students was conducted over 12 weeks, followed by a survey questionnaire, administered to participating students of the Griffith Studio to identify the best practices in design studio learning. The 12-week study monitored the use of the Griffith Studio and measured a possible increase in the academic quality and rigour in students project work.

The end of semester survey inquired about the success of using the Griffith Studio in a 3rd year design studio course based on the condition: the overall experience using the Griffith Studio, if the semester was a more engaging, interactive experience for your students, if the online peer platform was perceived as having added value to formal studio learning, if it motivated students, if the support and feedback received by peers elevated their learning experience and if students would like to continue using it in a future course. The survey also aimed to verify information about teamwork and interdisciplinary activities. The survey was conducted among spatial design students from four different classes located on two different campuses. A final year spatial design studio was selected to ensure the highest probable result.

4.4.5.6 Methodology

Student interaction observations are the most common source of evidence used in evaluating participation. Studio tutors were asked to promote student engagement, with particular mention of the online learning environment. Students were instructed during formal studio time in weeks
two and three on how to successfully engage with the Griffith Studio. Students also received a written step by step instruction (Figure 23) on how to sign up as a member of the Griffith Studio. Formative assessment in weeks four and seven monitored their engagement with the online studio and tutors also conducted weekly spot checks. Different metrics have been investigated as indicators of engagement with the virtual learning environment (VLE) in the design phase of the Griffith Studio. These include student success in the VLE was related to the total number of notations, the distribution of notations over the 12-weeks, the total number of comments left with more than ten different peers and the quality of the written interaction. The observations were performed on 70 students during a 12-week semester. Fifty-nine students or 84 per cent participated at least once in 12 weeks, and 11 students did not engage with the Griffith Studio at all. Two tutors and the course convenor were involved in observing and evaluating student engagement with the Griffith Studio. The design involved four phases:

1. Encouraging student participation in the VGS discussion forums by providing practice to improve familiarity with the technical aspects of forums and the social dimension during the orientation period.

2. Associating a grade with discussion contributions.

3. Introducing the method of applying critical and thoughtful feedback that stimulates analytical thought for the blog user.

4. Tutors and course convenors should become involved strategically in the forums – not overpowering but encouraging.

The survey consisted of five main parts: personal information (optional), engagement with the
study, engagement with peers during the 12-week trial, learning experience in the Griffith Studio and management of the engagement with the Griffith Studio. Additional questions were asked about successful recording methods, as well as the significance of adding a virtual studio in addition to face to face studio contact. All of the aforementioned questions were conditional for the future development of the Griffith Studio. The other conditional questions were for the methods of managing the online design studio, either for individual or group work.

The survey was administered online using Google Drive. A total of 70 invitations were sent to students enrolled in the final year spatial design course. Thirty-six students or 51.4 per cent responded and answered the survey. The answers were evaluated for bias in order to guarantee the validity of the outcomes. Among the 46 answered forms, all were completed and presented valid responses.

4.4.5.7 Results of Survey

Figure 24 shows the respondent sample distributed according to their campus. The respondents enrolled on the Gold Coast campus, and Southbank campus comprise of equal groups. Combined, 47.2 per cent of participants indicated that they engaged weekly with the task, and only one student indicated a daily engagement. Ten student or 27.8 percent had fortnightly interactions, eight students or 22.2 percent monthly and two students or 15.5 per cent never engaged with the online studio at all (Figure 25).

1. Where do you attend classes?

37 responses

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<tr>
<td>South Bank</td>
<td>19</td>
<td>(51.4%)</td>
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<tr>
<td>Gold Coast</td>
<td>18</td>
<td>(48.6%)</td>
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Figure 22
The Southbank group of respondents were the most active online. From the student cohort engaged on a daily or weekly basis, twelve students or 66.6 per cent were Southbank students. There is perhaps a correlation between studio attendance. 81.4 per cent of Southbank students attended more than 80 per cent of classes compared with 62% of students on the Gold Coast. The South Bank tutor was also a more experienced tutor, having worked in higher education for over a decade compared to the Gold Coast tutor who was an experienced practitioner but had only been teaching for one year. 40.1 per cent of participating students scored the helpfulness in their learning with using the Griffith Studio 6 and higher (Figure 26), 8.3 per cent scored a five or undecided and 41.7 per cent scored below 5, indicating that they did not see any or much value in participating in an online peer learning studio.

47.2 per cent did not want to continue with the Griffith Studio compared with 38.9 per cent undecided and 13.9 per cent indicating that they would like for the Griffith Virtual Studio to be
permanently implemented (Figure 27). Only 24.3 per cent prefer an image-based platform compared with 43.2 per cent preferring the current setup, which is text-based. 32.4 per cent had no preference. This can perhaps be related to the cohort’s general reluctance to visually communicate by sketching, drawing or illustrating as they prefer to communicate ideas and design solutions in a written and verbal form. The majority of participants or 52.8 per cent revealed that the comments received from their peers were unhelpful or not contributing to their learning. This compares to 8.4 per cent saying that the feedback given by their peers resulted in a direct improvement in their learning, as shown in figure 28. This combination of respondents is considered an efficient survey sample.

![I would like to continue using this platform next term](image)

**Figure 25**

![The comments and critiques I received from my peers were helpful. Rate how strongly you agree or disagree (disagree 1/agree 10)](image)

**Figure 26**
4.4.5.8 The Results from the Observation of the Griffith Studio

Figure 27

Figure 29 shows a screenshot of a participating student’s blogs. Students kept a daily blog documenting their design process.

Figures 30 to 32 show the comments left by participating students on another student’s blog. The image shows the blog open in the Griffith Virtual studio with comments.
In comparison, Figure 33 shows a typical classroom discussion face to face during contact time with the participating cohort. As mentioned, participation was low. In analysing the anonymous student feedback within the course satisfaction surveys, three prevalent themes associated with non-participation and quality of comments were identified.

1. Reticent student: Students indicated being reluctant to comment or critique work of their peers. They also mentioned that they are reluctant to share their own work with the cohort of fear of being negatively critiqued and/or copied.

2. Student feedback that is shallow and lacks depth: Participants commented on the unhelpful comments left by peers. Some mentioned that they felt that most students only engaged with the study because it was assessed and did not really critically engage with the work. Others thought that the feedback received was repetitive.
3. Added workload: Some students commented on the Virtual Griffith Studio being seen as adding to their already heavy studio workload. Some argued that they all had work commitments outside university commitments and having to participate in a virtual classroom added pressure. Others just could not see the relevance of it and thought it was a ‘waste of time’. One student felt that the platform itself was time-consuming to navigate and questioned if there was perhaps a better way going forward.

![Figure 31 classroom critique. Image by author](image)

4.4.5.9 Summary and Recommendations for future study

The present study aimed to evaluate the success of the Griffith Virtual Studio by assessing the experience, use and results of learners. Universities are increasingly providing more “flexible” teaching environments with evolving student lifestyles and rapidly developing technology.

Historically successful studio learning models, where students had a dedicated space to work in has been disappearing as a result of reduced contact hours, larger student cohorts and a lack of physical on-campus space. Although proven successful (Schön, 1985, Nicol, 2000), this traditional studio model has been transformed due to the needs of flexibility and availability. Griffith Virtual Studio tried to replace this space by introducing an online studio to final year spatial design students with the aim to help them construct and negotiate their own meaning and understanding of often complex concepts, create safe and supportive learning environments and
encourage interaction, engagement and self-directed learning.

Serval themes emerged in the absence of involvement, in the study and quality of involvement as discussed in the results chapter. The findings of the literature confirm while the underlying pedagogical value of informal and peer learning is essential for spatial design students; the results suggest five main issues:

1. Time issue - making the schedules flexible to accommodate working students or parenting students.

2. A reluctance to share ideas and comments with peers - consider making smaller focused peer groups and balance strong and reticent students within these groups.

3. Unhelpful or shallow comments - students need to learn the act of articulating a response which can lead to a meaningful discussion between students and deepen learning through dialogue and meaningful exchanges.

4. Seeing the value in participating - Peer learning should be mutually helpful and require sharing between members of information, thoughts and experience. The tutor needs to reinforce in the face to face time with students. Reduce the number of participants and connect students who work well together. Develop management strategies to handle the groups. At the start of the studio, encourage teams to establish identities to encourage to establish rapport.

5. The design of the platform - improve the sharing of information. Further research into image-based platforms vs text-based. Developing tools to allow for a useful platform for design collaboration including an audio link.

4.4.5.10 Framing collaborative practice

Collaboration is a core element of Design Thinking because it engenders creativity and inclusion. Christoph Meinel and Larry Liefer in Design thinking Research emphasise the importance of collaboration between designers. “When the creation process is performed by a team the effort is magnified and the energy multiplied” (Meinel and Leifer, 2012). Others emphasise the participation of stakeholders in the iterative process of design, thereby preventing the ‘black box’ designer creating something in isolation from the “user”. Writing about Design Thinking in Policy Making in the Australian Journal of Public Administration, Michael Mintrom and Joannah Luetjens (Mintrom and Luetjens, 2016) describe “participant observation” as one of “Five design thinking
strategies [with] lengthy histories as social science methodologies" that make it suitable for application in the policymaking process.

The role of collaboration in a Design Futures framework is clearly important in delivering the outcomes, but the practical challenges in engaging students in collaborative design practice are clearly significant.

Given the number of student comments that fall into the category of “not seeing the benefit of collaboration” it may be that a more explicit discussion of the role of collaboration in design thinking is helpful in establishing those benefits in the minds of students. It is also significant to separate the creative benefits of collaborating from their peers with the long-term benefits for equity and inclusion that arise from collaborating with users and dwellers.

4.5 Case Studies

Armed with the framework that connects curriculum to practice to an outcome, this section of the thesis now sets out to examine how that might be applied to various projects undertaken by design students in the Design Futures context. The application of the framework has been carried out retrospectively, and so is a post-hoc test examining the application and relevance of the framework to existing projects.

As we have already seen, this approach is useful in eliminating redundant elements of the framework and in examining relationships between the curriculum, practice and outcomes. Further testing needs to be carried out explicitly using the framework as part of the brief and the problem framing.

4.5.1 The LiveSpace experiment

LiveSpace Studio for Socially and Environmentally Responsible Design is a vibrant, collaborative design studio based within the Design Department, Griffith University, located in Southbank Brisbane. The design studio is the platform for an experimental Work Integrated Learning (WIL) studio, where design students explore collaborations with industry on the development of socially and environmentally responsible projects. Undergraduate students of Interior Environments, Product Design, and Visual Communication Design are provided with a WIL experience that enables them to learn by practising design, exploring through iteration of their ideas, applying theory as well as skills and techniques. Projects are focused on retrofitting, design for disassembly, adaptation, transportability, repurposing, reuse and recycling of materials for sustainable futures.
LiveSpace WIL students are provided with opportunities to work on real projects within the broader community, where they are challenged beyond the limitations of a typical studio environment. Working on projects outside the ‘safety’ of a classroom environment, students are able to gain insight into the complexity of the whole of the design process and the crucial interaction between designers, clients, consultants, trades, community and stakeholders in a continuous feedback loop. Students are encouraged to design appropriate research methods, community consultation processes, and practices of their discipline to reach successful outcomes for all involved. Applying theory, introduced in lecture and studio contexts, to tangible community projects allows students the opportunity to see not only the physical application of their design concepts but the ongoing benefits that carefully considered design interventions can have within the communities involved.

A cross-disciplinary approach allows students to develop skills beyond a traditional preconceived industry skill set, by working closely with and learning from other students, lecturers, consultants, trade and industry representatives, and community members from a broad range of backgrounds and disciplines. Also, this approach focuses upon the ongoing personal and professional development of students through the experiential process of learning through research, sketching, computer-aided design and modelling, hands-on prototyping, reflection, adjustment and improvement. Students of the program are exposed to and involved in all levels of the design and construction, from client meetings to computer-aided design to materials testing. Working on real client projects, the process of conceptualisation, design, documenting and prototyping, under the supervision of both industry experts and academic staff in the Live Space studio provides the benefits of an environment that allows for experimentation, innovation and learning from mistakes.

LiveSpace is grounded in an approach derived in part from Schön’s notion of “reflection-in-action” observed in professional design and architecture studio, described as “a capacity to combine reflection and action, on the spot...to examine understandings and appreciations while the train is running” (Schön, 1985, p. 27). Reflection-in-action takes place, for example, when students are learning the properties of materials by building prototypes. It is also part of an iterative process: rather than perpetuating a myth of the creative process as a series of blind trials, or trying out different creative ideas at random, Schön proposes that each successive trial is influenced by previous judgments of fit or misfit (Schön, 1985, p. 125).

Iterative prototyping is among the distinctive methods of the design profession—part of a professional epistemology, which Shaffer argues, can provide powerful models for learning environments (Shaffer, 2004, p. 1405).
Fry’s case for the redirection of design away from unsustainable practices offers a number of strategies and methods for developing epistemologies beyond instrumentalist paradigms (Fry, 2009). This is echoed in part by the growing awareness in the industry of a need to identify sustainable methods of design and construction. Thus, while traditional on-site Work Integrated Learning presents students with an opportunity to learn the skills, habits and associations of current professional practice, a learning lab on campus shifts the balance toward the future of the profession; it provides a venue for collaborative experimentation with industry.

Adjustment and improvement of designs following prototyping prior to the actual construction phase provides the scope for reflection, analysis and development of participatory processes to tackle complex design problems, or ‘wicked problems’ (Buchanan and Margolin, 1995). The involvement of students in the project management and final construction phase of the project provides an opportunity for students to collaborate with consultants, contractors, trades and other industry professionals, thereby expanding their knowledge of industry standards, regulations, limitations, terminology and materials properties and providing industry readiness.

Burton proposes that pedagogical integration can be achieved through conceptualising it as praxis and building a process by which theory becomes part of students ‘lived experience’ (Burton as cited in GIHE (GIHE, (n.d.))). Shaffer’s concept of “pedagogical praxis” extends the notion of praxis to

(a) incorporate the principles embedded in existing professional learning practices,

(b) develop of technologies to help students participate in these practices and then

(c) develop “experimental learning environments” (Shaffer, 2004, p. 1405).

The value of an experimental learning environment is significant as it allows for the co-construction of knowledge, whereby individuals construct knowledge through relational interaction (Valsiner, 1994, 2000 in (Billett, 2004, p. 3)). However, issues involving selection of workplaces for WIL placement can be fraught with challenges where, practice can in actuality be a source of erroneous learning, through the application of ill-informed and outdated professional practices in certain workplaces (GIHE, (n.d.)). In other words, many external design practitioners offering WIL placement opportunities lack the academic background or essential practical competencies to provide any authentic connection between theory and practice.

LiveSpace provides a mechanism by which we can follow through on the theoretical development of the curriculum into the execution of practice itself. It provides evidence that the reflection in
action and iterative design approach of human-centred design are practical and applicable and can be used by emerging designers in real-world projects.

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<th>Principles</th>
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<td>Spatial practice</td>
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<td>Innovation</td>
<td>Resource efficiency (Consumption &amp; Waste)</td>
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<td>Deep adaptation</td>
<td>Diversity Experimentation</td>
<td>Metrolfittion Compliance</td>
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<td>Collaboration</td>
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Table 25 The Design Futures framework and the LiveSpace project

One of the significant finding here is that Redirective practice belongs to the planning process in which the principles are developed and applied to the brief. Further, it emphasizes that the iterative nature of Design thinking must be applied to the planning stage as well as the design process. We do not develop a brief in isolation and then iteratively set out to achieve it. That is a basic principle of the Double Diamond (Council, 2015) but it is often overlooked in busy design practices.

4.5.2 The Charleville Project

Charleville is a regional Qld town with a population of 3728 situated approximately 750 km west of Brisbane (ABS, 2011). Established as a frontier town on the Warrego River, Charleville is the largest town and the administrative centre of Murweh Shire Council.

Established in 1865, Charleville became a regional hub serviced by Cobb and Co. Stagecoach Company with a railway link to Brisbane following in 1888 and the establishment of a regional airport during WW2. Charleville is now a popular stopover for tourists travelling the Australian outback, known for its Bilby Conservation breeding program and the Cosmos Centre.
Observatory. (Murweh, 2015a). Formerly a sheep grazing area, the town’s economy is now heavily dependent upon the local beef industry, which faces uncertainty in times of a changing climate. Summer in the area is dry and hot, with the region subject to periods of prolonged drought. Despite the low annual rainfall, however, Charleville is subject to severe and devastation flooding. The Warrego River channels volumes of waters from low-lying inland plains during wet seasons, resulting in the town’s long record of flooding. (BOM, 2015). The largest flood in recent history was in April 1990 where 3000 people in the town were evacuated, and 80 per cent of the township inundated (Risk Frontiers, 2012, p. 45). Further severe flooding has occurred in 1997, 2008, 2010, 2012 and in recent years in excess of 20 million dollars (Au) has been spent on flood mitigation in the form of river levee banks, diversion channels and flood gates funded by the State Government (Murweh, 2015).

Figure 32 local newspaper reporting in 2018 at the opening in Charleville, Image by author

With new flood mitigation in place, and new confidence in the town’s future resistance to flooding, the community of Charleville is keen to revitalise its town centre. At the invitation of Murweh Shire Council, students from LiveSpace: Studio for Socially and Environmentally Responsible Design and Design Department lecturers [names removed for blind review], travelled to Charleville in July 2014 to commence the planning of the design and documentation of a new Art Gallery and a proposal for a new vision of its two main streets, Willis and Alfred. The visit to Charleville provided a unique opportunity for design students to engage and consult with the local community on projects that aim towards strengthening long-term social and economic sustainability in the region.
4.5.2.1 Project significance

This project is an interior design project of the Mulga Lands Gallery on Alfred Street in Charleville, Queensland. The project is the result of a research study into the liveability of regional towns in Queensland from a regional arts and development grant the Murweh shire council obtained in 2014. The research study, undertaken in collaboration with Murweh shire council and a community focus group, led to the planning, design and construction of the interior space and exterior façade of the Mulga Lands Gallery. Murweh shire funded the construction of the new gallery. The project focuses on revitalising ‘dying’ outback towns, and the interior design makes reference to issues faced by isolated remote Queensland communities - drought, floods, isolation, abandonment, resilience and survival.

An action research approach examined these threats of centrifugal forces of economic and social change coupled with climate change. Within this framework, the redesign of an existing art deco building offers a spatial response to these challenges. The design facilitates creative expression through the composition of space where climate responses and reference to local culture are celebrated through the aesthetic and temporal qualities of the interior. Mulga Lands Gallery was officially opened on 10 November 2018 by Hon David Littleproud MP. The gallery design has met the environmental requirements for the long-term preservation of collections as stipulated by Arts Queensland. This will allow them to access exhibitions at the state level, engage in national conversations and show new contemporary work to local residents and visitors. The connecting spaces of the galley offer a residency program. In his opening speech, Hon David Littleproud announced that the unique design of the gallery has the potential to increase the town’s tourism potential, help regional designers stay connected to contemporary practice and archive extensive work by local artists.

4.5.2.2 Project implementation

Project meetings and discussions were held with representatives from the Murweh Shire Council, Murweh Shire construction representatives, Murweh Shire parks, gardens and streetscaping teams, Charleville Arts Gallery Inc., and a wide range of local business owners and community stakeholders. Discussions were held with representatives from Arts Queensland regarding the design requirements pertaining to regional galleries and their functionality. The team also met with representatives from the Queensland Government Department of State Development, Infrastructure and Planning (South West Region) to discuss broader issues of regional development and opportunities for local projects and planning. With a new town plan being developed for Charleville, students were further encouraged to propose concepts that may be incorporated into sustainable visions for the town’s long-term future. The team commenced site
inspections and site measures, obtained photographic records, and undertook historical analysis and mapping exercises of the town’s central business district.

Upon return to the Brisbane studio, the team produced a re-directive design brief based upon their research, prior to commencing conceptual design, prototyping of exhibition displays and documentation for the proposed Charleville Arts Gallery, a retrofitting project which will occupy the current (Arts and Cultural Centre) location in Alfred Street. Funding has been sourced and approved by Murweh Shire Council and work on the gallery is scheduled to commence in 2015. The Charleville Arts Gallery will serve as a showcase for the works of local artists and also provide a venue for travelling exhibitions and events to the region. The need for a regional art gallery to promote local artist has been long recognised by the Council, Charleville Arts Gallery Inc. and the local community. Designs for the space must, therefore, allow flexibility for a wide range of future exhibition and commercial opportunities. Project teams worked in conjunction with QLD Art Gallery/GOMA and Griffith University Queensland College of Art Web Gallery and Griffith Artworks to ensure best practice is achieved in gallery design and allow for travelling exhibitions to occupy the space.

In keeping with the ethos of the LiveSpace Studio, the Charleville project has a strong focus upon design for disassembly, modification, retrofitting, reuse and repurposing of materials. The proposed design (Figure 4.3.2.1) centres on flexibility, with joinery items and displays designed for mobility, ease of assembly and disassembly. Display plinths have been designed to be stackable, inserting into each other as they decrease in size, allowing for a reduction in storage space when they are not in use. All joinery elements are moveable, including the Point of Sale, which is designed as soft-wired, to allow the space to be utilised in extensive ways including hosting of community events and for ease of transportation in case of future flooding.

![Proposed Floor Plan](image.png)

Figure 33 Proposed Floor Plan. Image QCA students
The storage room hosts a large pivoting wall for additional flexibility and ease of access when setting up an exhibition. A lighting feature installation of programmable OLEDs is designed to minimise energy utilisation and allow for maximum flexibility of the space; programmable and interactive to achieve multiple lighting effects and suspended on a modular adjustable grid creating freedom for endless positioning of display cases and walls. Careful consideration of materials selection, including durable exposed concrete and sustainably sourced marine ply, allowing for any possible future flood damage was also integral to the design concept.

Along with return brief, rendered plans, perspectives, details and a 3-dimensional model and scale model (Figure 4.5.2.2), the team constructed a full-size prototype joinery seating and display units in the workshop under the guidance of skilled carpenter, Patrick Connaughton. Participating in hands-on construction of the joinery items is aimed at providing students with an advanced level of knowledge in sustainable materials construction that will equip them with a competitive advantage in a rapidly changing industry. The teams’ resolved design concept for the project is currently at the review and documentation stage, having been received with enthusiastic feedback from the Murweh Shire Council, and construction on the project is set to commence in the coming months.

Figure 34 Art Gallery re-design scale model. Image by author

In addition to the Art Gallery redesign, students have further developed concepts for street façade restoration and improved streetscaping for the town, a regional Queensland centre full of history and diversity. While in Charleville, the group had the opportunity to meet with many members of the community discussing important issues including the town’s rich history, present challenges and future opportunities. Issues identified include historical flooding, heat islanding in the town centre with large expanses of bitumen and little planting, and degeneration of historic facades. There has also been a downturn in the local economy, which is heavily dependent upon
the local beef industry affected by extended drought periods. The flow-on effects throughout the
town have resulted in several empty shop fronts, which are of significant concern to Council and
local business owners.

A design package presented to the Council focuses upon revitalisation of the town centre with
building façade restoration, increased street planting, shading elements and seating hubs (refer
Figure 4.5.2.3). New wayfinding and signage packages have been included to help direct tourists
to key locations, activities and points of historical interest. Walking tour trails of the town,
complete with information plaques celebrating the rich history of the towns historic buildings have
also been proposed. It is proposed that the materials for these projects be locally sourced and
crafted, in keeping with the town’s history and encouraging a participatory community approach
to the project. Designs will also be proposed for temporary ‘pop-up’ shops in vacant retail spaces,
creating opportunities to promote local products particularly during peak tourist seasons.

Students will research, experiment and prototype product display out of lightweight, recycled, and
sustainable materials that may be relocated from space to space as necessary in the future.

![Figure 35 Street scape way finding re-design. QCA student work](image)

4.5.2.3 Benefits/Outcomes

WIL projects allow for the provision of education that is responsive to both the present and future
needs of students, increasing employment rates and thereby enhancing university reputation.
Furthermore, WIL allows for network expansion between the university and the larger community,
providing a greater level of engagement and commitment with community partners and
organisations. Professional, disciplinary and generic skills and knowledge are developed, along
with personal attributes including adaptability, honesty, integrity and confidence. Furthermore, professional development, acclimatisation into the workplace, ‘real world’ experience and increased work ‘readiness’ have all been recognised as outcomes of WIL placements (GIHE, n.d.).

Work ‘readiness’, is a central feature of Livespace by encouraging strong industry links and partnerships with the construction industry and an aim for cross-disciplinary transfers of knowledge that is not achievable in the classroom alone. The studio monitors and evaluates how student design skills improve when an opportunity to design and build ‘real world’ projects is incorporated in the curriculum. This project–based learning approach, filled with active and engaged learning, is central to Live Space where students obtain a deeper understanding of design processes, time management, client communication and team-based learning. Furthermore, students are more likely to retain knowledge, develop self-confidence and self-direction as they move from teamwork to independent work.

![Figure 36 Design students working collaboratively, in-situ. Image by author](image)

Project learning at Livespace also encourages students to experience greater flexibility with project delivery, which encourages a sense of pride in their work, a sense of ownership, confidence and accountability. Because students at Livespace are assessed on the basis of their projects rather than on traditional assessment methods like essays, rubrics or exams; they often see their work as a more meaningful learning tool and as a link to real-world experience and ultimately the workplace. This real-world relevance is further encouraged with a spatial environment that resembles a real design studio, where technology such as computers are integrated throughout a space that encourages team collaboration and communication but also allows for quiet time. Project teams can easily move from one activity to the next without having to leave the studio.

Observations made in semester 2/2014 working on the Charleville project confirmed that active
and engaged learning inspires students to obtain a deeper knowledge of the individual project components and the knowledge obtained was retained far more readily than through traditional classroom centred learning. Students enrolled in Livespace WIL were able to bring their newly learned skills back into the classroom environment and effectively use those skills on projects outside Livespace. Further observations also confirmed that Livespace students had a greater desire to explore, take risks, and were starting to investigate and understand their world far more effectively than their peers. In addition, their classroom project proposals started to be underpinned by a heightened understanding of theoretical research into the subject area, and they were beginning to establish more effective links between theory and practice.

Although further research is required to gain a complete understanding of the Livespace WIL experience, WIL is widely recognised as an effective form of teaching and learning within the design education, giving students the opportunity to explore and test their ideas on real-world projects. ‘Real’ projects offer design students to engage with industry partners, community stakeholders and clients away from the safety of the classroom. Through collaboration, all parties involved participate in the learning and the sharing of skills and knowledge. WIL students get the chance to gain real insight into all challenges readily observed in live projects. As the team leaders, Livespace students learn skills and knowledge that far surpasses the classroom experience. The tools learned will be essential to future practitioners and help to establish an awareness of the social and environmental responsibility of the future designer.

This is an example of livability as a key criterion and the economic impact of good design on the community. It also deals with the human-centred design experience and openness of decision making. While the evidence supporting the success of these criteria is anecdotal, the project generally confirms the validity of the shaping of a criterion focused on long-term outcomes rather than simply a design-centric set of values determined by the discipline itself.

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Affordability

A tight budget was met, and positive impacts on the local economy have been recorded. Collaborative practice

The engagement of the community in the process was a good example of a collaborative process and underpinned the strong desire to engage local business in the creation of a solution.

Sustainability

Low environmental footprint, good sustainability rating, strong efficiency of resources due to the direct application of metrofitting.

Community contribution

Community engagement in the gallery is high (see collaboration) and, as a community asset, contributes directly to the economic and cultural activities of the community.

Innovation

The project took an innovative approach to the redesign of the cultural assets of a rural town. The innovation in the project flowed directly from the desire to metrofit and the engagement of the community. As identified in the Authenticity research, it is the lived experience (interiority) of the dweller that determines the value of the outcome rather than anything that the designer can create on their own.

4.5.3 Production of space

The implementation of this case study is a result of students identifying a lack of a cognitive...
process of how knowledge is used in current interior design teaching methods, particularly in the theory content related to creating interior spaces. The existing teaching and learning strategy at the Queensland College of Art (QCA) interior design program cater for a student-centred approach in all design and project courses. Even within the student-centred courses, project-based learning is not delivered in the true sense but is rather a mix of studio-based work and lectures working on interior focused projects. The projects are often ‘real life’ projects with ‘real clients’ with a strong vocational focus. Furthermore, the majority of projects that have been undertaken by the students focus on a narrow spectrum of interior design areas in commercial design or residential design and have traditionally had a strong industry skill focus.

4.5.3.1 Overview

A study was taken up by three final year students as their final project generated much discussion in the design studio. These students were intrigued by my readings of Lefebvre and other philosophers and my research interest in understanding how spaces can be designed in more meaningful ways. The students used theory on space design to go beyond the current method of designing studio projects. Faced with uncertainty entering the interior design industry at the end of their degree, the students were hoping to become better-informed designers by underpinning their knowledge with a framework based on theory. After three weeks of intensive reading and discussions of Lefebvre’s *The Production of Space*, readings by Bruno Latour and Peter Sloterdijk and revisiting reading on narrative theory, phenomenology and semiotics, the students adapted their final individual projects to allow a new approach to challenge and questioning existing design thinking. The aim was to investigate if and how their consciousness will change with greater theoretical knowledge and lead to question their designs to offer more meaningful outcomes and to become aware of internal values (interiority), the meaning of space and how humans interpret environments.

The student project draws heavily on a study by Bruno Latour and *The Production of Space* by Lefebvre. Latour and Yaneva (Latour, 2008, p. 80) discuss that the problems with buildings are that they look desperately static. It seems almost impossible to grasp them as movement and as a series of transformation. Although we know that a building once it is built is not a static object; that it ages, that it is transformed by its users, modified by all that happens inside and outside and can transform beyond recognition, we fail to see it. Whenever we see a building and interior space, it is fixed in real-time. Latour and Yaneva blame the power of the perspective (invented in the Renaissance) as a possible factor to give the idea of buildings as static objects. Computer-generated models of buildings are not any different. 3D rendered images of spaces give the illusion of a perfect interior, but where are the angry clients and their conflicting demands? Where
are the many constraints from building and planning laws inserted? Where are the budget limitations visible? Continuous movement (what makes a building) can according to Latour and Yaneva only be observed if we had a series of successive freeze-frames documented over the lifespan of a building (Latour, 2008, p. 81). Equipped with the background readings of The Production of Space, where Lefebvre discusses space as social space and previously acquired knowledge of the narrative theory, the student chose to monitor and document a familiar space over the semester. The emphasis was to understand the human interpretation of the environment, how space is used, and interacted with and how it changes over time. This was achieved by setting up a camera (just as Latour suggested) which recorded still images of the space every hour over twenty weeks.

The space was very familiar to the student – her family’s living room. It had been a much lived in space and had not experienced any transformation for many years. It was a space where the family gathered, the social hub of the house. The room was furnished with an eclectic mix of furnishings, fixtures and ornaments. The student described the space as a creative composition that inspires, energises, fosters togetherness and feels like home. As the main social space in the domestic dwelling, the room was also used as the music room. It housed a grand piano and several string instruments. This family likes to get together and play music on Sunday afternoons. The room was semi-open to the kitchen and dining area but separate and enclosed enough to be private. The furniture had been arranged to suit the layout of the room, functional but not in any way innovative. The 54 square metre room was divided by the grand piano, which was placed adjacent to the large window overlooking the gardens. The remainder of the space was furnished with a lounge suite, coffee table and lots of bookshelves full of books. Its timber floor was partly covered with an oriental carpet. The walls, if not covered by bookshelves, displayed a assortment of artwork, ranging from oil paintings to etchings and photographs. There is plenty of daylight which is supplemented with dimmable lights.

The objective was to monitor the use of the room and to record movement in the space and interaction with the space over ten weeks for 24 hours a day in phase one and again for ten weeks in phase two. At the end of the ten weeks, the student put together a storyboard highlighting the daily rituals of her family’s life. The freeze frames revealed what was anticipated and predicted, a social space with people coming and going, parties, music gatherings, quiet reading times, coffee times, conversation time and emptiness, a much-used space, a much-loved space. Changing the perception of a space depends on what we know, what we see, what we experience. Does the student have the same perception about the space as prior to her experiment? Did it change her consciousness by inwardly reflecting on her own life experience.
and connect it with this experience? And how would she re-design this space if given a chance? These are some of the questions the student tried to answer in the second phase of her project.

The second phase of her project allowed her to address the perceived shortcomings (if in fact, there were any) of the space and redesign the space. Firstly, she re-created the space as a visual representation using computer aided three-dimensional design software. Any media was available to the student, but she selected to use media she was most familiar with, 3D Max. By doing so, she now created a Representation of Space, Lefebvre’s second level of interpreting space a conceptualised space, a space without life, simply an abstraction. As outlined previously, this level of space is the one predominantly experienced by design students and has the danger of being interpreted as an empty volume that needs filling. To minimise the danger, the student felt she would benefit from working in the actual space with her computer and project her visuals on a wall in the living room, which allowed the family to comment and critique. Equipped with the research findings and informed by theory, the student tried to re-design the space by critically question how we inhabit space. She looked at how the client lives in the space by determining the different functions within the space and attempted to deliberately modify the existing space into separate spaces with specific activities – conversation, reading and music, as these were the three dominant activities monitored during the ten weeks observation. As the emphasis was on process and not on a finished product, the spaces were regarded as temporary spaces, interchangeable without much work. Her experiment involved changing the dynamic of the room by changing the zones. In her 3D model, she changed the location of the two zones (lounge area and music area). The lounge area was now near the large window overlooking the garden, and the music area was where the lounge was. A third change involved moving all bookshelves with content to divide the room in half. In a way, the bookshelves acted as a wall, a room divider and visually separated the two activities. She rendered the drawing using materials and colours true to the original design. The finished fly-through was then projected onto a wall in the living room, allowing the users to experience the transformed space for one week. The third and final stage involved physically re-arranging the space. This was achieved by changing the layout according to the blueprint and monitoring and documenting the space for a further ten weeks using freeze-frames.

4.5.3.2 Conclusion and Reflection on the Case Study

As practitioners, we solve the design problems for humans who use and inhabit the space. We consider their needs, whether functional, social, psychological or environmental, by understanding how to use research to help identify and clarify the relationship between human behaviour and the built environment. As a design project, we can probably conclude that the
case study was a failure. There were far too many limitations to the study, including the time frame, which did not allow enough time to monitor any significant change. However, this was not purely a designing activity. This project was experimental, a learning experience to gain a sense of agency within the act of designing; the agency interior design potentially has in the world. This experience changed how this student thought about the practice of interior design. In essence, what this student learned or what this exercise did was to chance how students think about designing space ontologically. This student shifted her way of thinking and in a sense, underwent a personal transformation about how she interacted with interior design projects. She changed from her previous applied design approach (designing a space and place people and objects in it) to one which enabled established theories and methods to inform an approach that connected people and space.

During the entire design phase, the student acknowledged that design thinking as a skill is not exclusive to those with design training. Every day we are all faced with design decisions in everything we do, from selecting the clothes we wear to how we arrange our desk. Concerning built spaces, space is produced and reproduced by humans in which they make their lives (Lefebvre, 1991). Space is produced by the people who occupy it and influenced by those who design and produce it. Although this project was of hypothetical nature, the student’s aim was to prove that if spaces are social spaces; does it matter if the layout changes significantly? Is it important if the visual connection of the functions within the space is lost? Would the influence of the designer have any impact at all on how people interact with their environment? Or is the ‘social interaction’ of a space so powerful that any given space will allow being read as a social space, even if it is a representation of space?

In the final weeks of the semester, the student re-visited her original project, a commercial space. The brief had not changed, and the client was anxious to see the final design proposal. However, the last 20 weeks had changed this student’s thinking, and she was not able to engage with the already commenced design project. Instead, she wrote a return brief to the client and proposed significant changes. By looking at her research, by confronting her interiority and by critically analyse established theories on spatial design, the student changed her approach to the design process and critically questioned how we inhabit spaces and how much the people themselves produce the space.

‘Buildings don’t function as a finished object but rather as a special process, open to whatever use it may be put to indeterminate future, not as a container of solids but as facilitators of flow’ (Grosz, 2001, p. 165).
While interior design continues to be without a clear identity and deemed by many to be inferior to architecture, more effort needs to be made to elevate its status and present itself as a discipline able to confront change. The direction of interior design needs to be a focus away from professional identity to one which allows the discovery of a larger sense of self and one’s place in the world to cultivate an informed citizenry amongst design students capable of leading change. Its project needs to be redirected by significantly strengthening the theoretical position of interior design education and re-evaluating studio practice. Moreover, the types of projects considered important to facilitate student learning need to be reconsidered. Changing our perception of space depends on what we know, what we see, what we experience and the nature of the world we want to create. We need to lean more on theory to be able to think critically in order to bring new understandings to how we practice. While any change seems threatening, it is necessary. The world in which we live, how we live, confronts many and major challenges. We cannot continue to be and be as we are. How we are, how we dwell, how we live are all implicated in interior design. Hence the nature of interior design education has to change. One of these changes is how space is understood and engaged.

Because this project was explicitly designed to apply a framework-based approach to design it is of particular interest in measuring the relevance of the emergent framework to the outcomes of the project.

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Table 2 – The Design Futures framework and a project to test Lefebvre's production of space

**Collaboration**

Collaborative process used to design project. Family engaged in process of implementing project.

**Transparency**

The process fully employed these approaches and led to a change in practice on other projects. Notably, specific visualisation tools were used to facilitate and, thus, ensure transparency.

**Affordability**

Not a criterion of the project, although a budget of zero dollars was maintained, so it is definitely affordable.

The value of this project is in following a design student through the process of taking a theoretical framework, mapping that onto her design practice and then recording and measuring the outcomes.

Even though it addressed only two elements of the framework, it provided a valuable example of how these separate elements can be connected.

4.5.4 Living Smaller project

This visual segment presents a studio project by Griffith University design students that sought to uncover a narrative of tension between our aspiration to live ‘big’ and an urgent need to rethink how we dwell as a response to climate change. The project titled ‘Future Living’ took place from July to November 2015 and created three distinct directions:

- The dream space of conceptual design,
- The material reality of housing construction, functionality and building regulations
- And a changing world in the face of climate change.

Students were required to re-design a typical 80m² two-bedroom apartment into two apartments
with two-bedroom each. They were asked to consider aspects of spatial planning, structure, view and environmental factors to produce a dwelling oriented to future requirements.

Figure 37 Typical 80 square meters two-bedroom apartment- Living Smaller Project. QCA student work

Figure 38 Re-designed typical apartment into two self-contained two-bedroom apartments- Living Smaller Project. QCA student work
As the world population increases and becomes concentrated in cities, the need to reduce the
size of the spaces we occupy seems obvious. However, most of our existing apartments have been constructed according to a worldview developed in a time when the stresses our way of life placed on the planet were not so obvious.

Overall, the project highlighted that too many people are oblivious to the inner workings of their commodities and environments, not understanding the role and impact that those built environments and artefacts play in the context of our everyday life. These things not only influence us directly in an anthropological sense, but they also create global scale ontological consequences that are drastically increasing in both size and significance.

The learning journey resulted in design outcomes that showcased the re-conceptualisation of the idea of ‘home’ and the indivisible expectations that follow. The designed outcomes exhibited an aim to blur the boundaries of a typical home by designing a space designated for more than one purpose; reaffirming the idea that ‘bigger is NOT better’.

This project explicitly dealt with the challenge that design students are generally NOT taught the long-term implications of their design. As such, it can be viewed as an exercise testing the assumption that it is valuable to take this approach in teaching design.

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Table 26 – The Design Futures framework and the Living Smaller project


**Innovation**

Not a focus of this project, although many students applied creative and original approaches to the project based on their learnings.

**Sustainability**

The key focus of this project. Highlighted how little awareness there is without the insertion of such a framework into the curriculum. Outcomes generally considered positive and useful by students.

### 4.5.5 Reverse Garbage project

Reverse Garbage Queensland is a not-for-profit worker run co-operative that promotes environmental sustainability and resource reuse. They collect high-quality industrial discards and sell them to the public at low cost (Reverse Garbage). As a company, who strives to be sustainable in every sense of the word whilst reducing their own ecological footprint by adopting sustainable practices and educating the public to reduce theirs, Reverse Garbage fitted well within the preferred client profile of Livespace, who’s aim is to engage and participate in socially responsible community-based projects whilst exploring new thinking in sustainable design and construction practices (Hepburn, 2006).

The brief invited Livespace students to propose a new design and brand identity for the Reverse Garbage Woolloongabba warehouse. Housed in an industrial warehouse in an industrial zone on Burke Street in Woolloongabba, the current warehouse building lacks identity and street appeal. Furthermore, Reverse Garbage in its current premises is not identifiable as a company with excellent sustainability principles externally and there is a lack of a sense of entry. Students were asked to design a brand strategy to address these issues, and form a set of values, which links the strong principles of the company with the physical space.

The investigative research phase included understanding the history, function, and ethos of the company as well as a thorough site analysis. The research was divided into five key elements; the building, the products, the client, the costumers and the company’s ethos.

Teams of two or three students worked over a two-week period to present an inclusive research study to the client with the aim to re-direct the given brief and focus on a new in-store client experience, allowing customers to instantly recognise the company’s brand of being a not-for-
profit worker run co-operative that promotes environmental sustainability and resource reuse. The proposal included a unique spatial experience for customers by integrating brand with the design of a new interior and a new façade and entry, featuring waste products typically sold in the store to communicate Reverse Garbage’s unique brand message instantly.

The design process led to a concept that tells the story of an ecologically based worker-managed co-operative. The ambition was to create a spatial experience that will make a lasting impression on Reverse Garbage customers by re-designing the space to communicate that one can live off the discards of our wasteful, industrial society (Hepburn, 2006).

Semester time constraints dictated a staged approach for design development. Because the storefront display is the first opportunity to connect with naturally occurring foot and vehicle traffic to draw customers in, LiveSpace agreed that the exterior, including the façade and entry, was the first stage in the re-design approach. This method allowed visualising for the client the potential of a building transformation by giving the entire building a new ‘face lift’, thus a new identity.

Students employed skills learned in studio classes to develop the concept, which involves a series of steps to arrive at a solution. The project engaged and motivated students to identify and solve authentic problems and how to connect with experts, allies and audiences to test and assess planning strategies. A number of new skills had to be learned in order to move the design process forward. These included learning new technologies for visualising the concept (learning new CAD skills like fly through and high-end rendering), understanding complex building technologies (discussing the project with metal fabricators and engineers) and understanding the material properties of the main design element, rubber strips, sourced from inside the store. The two-meter long rubber strips, a waste product from a tap washer manufacturing company, went through a lengthy investigative process to determine, durability, sustainability, cost-effectiveness, ease of assembly and design impact.

The Reverse Garbage project empowered Livespace students to think critically and creatively, collaborate, and communicate. Throughout the design phase, students were highly motivated while learning relevant, rigorous content and skills that align with industry standards. They were able to identify and solve authentic project-worthy problems to deliver a successful project (Blumenfeld, Soloway et al., 1991, p. 369-381). Literature indicates the need to include a variety of skills in design pedagogy to enable students better to establish their footing in professional practice (Thakur, 2009, p. p910-923). Akin (2002) argues that in order for professional education to succeed, there should be a substantial representation of applications and actions in professional practice in the core of educational experience (as cited in (Thakur, 2009, p. p912).
The Reverse Garbage professional education experience has not only had a demonstrable effect on motivation, but students have also reported (in reflective journals and surveys to date) that they have gained a greater understanding of the design process, building technology and materials through engaging with manufacturers, builders and stakeholders and gained valuable interpersonal skills. At the same time, students have conveyed that working in a team to arrive at a design proposal required “open-mindedness”. Such findings support a consensus in the literature that professional practice supports students’ capacity to become “proactive, adaptable, motivated and responsible” – qualities sought by potential employers (Cooper, Orrell et al., 2010, p. 59).

Figure 42 Project presentation at Reverse Garbage. Image by author
Working with clients, managing multiple stakeholders and engaging with the environment to design, prototype and develop solutions that pertain an elevated level of social and environmental consciousness has helped LiveSpace students to bridge the practice-theory-gap often experienced while studying.
Given the environmental and social justice values of the client, this was an ideal test for the overall approach. That was complemented by the client’s desire and willingness to work collaboratively with the students and to engage possible suppliers and other stakeholders in the process. The collection and analysis of student diaries and client feedback have been a useful mechanism for refining the framework.

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Table 24 – The Design Futures framework and the Reverse Garbage project

**Affordability**

Limited budget focus on re-use of discarded material and ethos of client supported this approach.

**Collaboration**

Engagement of client and stakeholders supported and tested this approach.

**Sustainability**

Very much a focus of the approach.

**Transparency**
The nature of the engagement ensured transparency was a key element and students report learning the significance.

**Innovation**

Probably the weak point of the project. So much focus on other areas it is possible this was constrained.

4.5.6 Woodford project

The Woodford Folks Festival is an annual celebration of culture held over six days over Christmas on a 500-acre parkland located on the Sunshine Coast Hinterland, on Jinibara Country. The festival is produced by the Queensland Folk Federation Inc (QFF), a not for profit incorporated association. The mission statement of the QFF is to: stimulate, facilitate and foster the preservation and promotion of folk culture for the common good (Woodford). The festival is powered by an 'army' of thousands of volunteers and is now one of the biggest festivals in Australia (Woodford).

The festival, with more than 2000 performers entertaining in 438 events, attracts over 120,000 visitors over a six-day period. The event features concerts, dances, street theatres, writer’s panels, film and comedy sessions, acoustic jams, social dialogue and debate, folk medicine, children’s entertainment, environmental debating, cabarets, fire events and arts and craft workshops (Woodford). “The culturally rebellious nature of the Woodford Folk Festival embodies a spirit of ‘liberation and self-expression’ that continues to engage the hearts and minds of festivalians, both old and new, as the cultural prominence of the festival increases every year “(Stevenson).

The Queensland Folk Federation has a strong environmental ethos. Not only is their aim to develop and manage the site in a sustainable manner, the whole festival also has the aim of becoming carbon neutral. Through replacement of vegetation, erosion and weed control, the natural environment of the site is Woodford’s strongest feature. QFF also advocates educational opportunities and to lead by example with their land management practices, wildlife management strategies, tree planting events, recycling materials and encourage the use of recyclable materials, restriction of chemical use and the promotion of environmental branding for all their activities.

In 2015, the Queensland Woodford Folk Federation provided LiveSpace with an opportunity to conceptualise design proposals for two new bar venues for the 2015 festival. Within the festival
village, one can find 35 performance venues. Some have bars, but most bars, cafes, restaurants and stalls are lining the festival streets. LiveSpace students travelled to Woodford to meet with the client and receive a briefing. During most of the year, the festival site consists of grassy hills and valleys, connected with an amazing infrastructure, including a 16 mega-litre dam, an extensive network of vehicular and pedestrian roads, pedestrian bridges, an underground sewage reticulation system, and potable water reticulation and drainage. As there are no permanent structures, imagining a lively temporary town for 20,000 daily visitors offering over 430 different events provided a challenge for students.

Woodford uses temporary weatherproof modular pavilions for all their venues. These pavilions show exposed metal bracing and feature vinyl walls and roofs. QFF relies on securing external funding for the delivery of the fit outs for the majority of venues. A wine company from South Australia and the City of Louisiana provided possible sponsorship for the LiveSpace projects. In the spirit of this partnership, each sponsor’s branding was integrated into the design concepts.

The brief asked for designs which will consider the sponsor, disguise or cover the visually unattractive structures and materials of the pavilions, including repurposed or recycled content to keep within the sustainability ethos of the festival and create comfortable, unique and creative installations for Woodford patrons, working to a small budget.

Students commenced the design process with analysing and understanding the scope of the project brief. Visits to the site, salvage and recycling shops, pavilion hire places and similar festivals provided the context for the research. Interior Environment, Visual Communication, and Product design students worked on the Woodford project individually initially and in teams after the first concept presentation. Each group nominated a team leader who had the role of offering direction, instructions and guidance to the team members. In addition, the team leaders were responsible for identifying team skills and additional skills needed, developing effective strategies and identifying reachable goals, monitor team member’s participation, manage the flow of the design process, create progress reports for staff and keep the team motivated.

LiveSpace often engages students in case-based learning. Case-based learning is a term used in formal teaching where case studies based on real events form the source of inquiry to articulate a basis for wide-ranging exploration.

As case studies emphasise the object being studied, the case method suggests the process of studying a problem. Cases also help students make connections between what they might otherwise consider being separate disciplines (Tovey, p 209). Tovey (p 209) points out that case
studies can provide a rich basis for developing student’s problem solving and decision-making skills. Working in groups on cases also helps students develop interpersonal skills and the capacity to work in a team. Furthermore, this learning style has had a positive response from LiveSpace students. They reported that this style of learning encouraged an active style of participation in real problem situations. It encourages reflective thinking and motivates students.

Students developed two concepts, one for the Wine Bar and a second for the Blues Bar. Students had the opportunity to meet with the festival director, discussing issues on his future vision for the festival and the opportunities this presents to young people. A design package presented to the general manager of QFF focused on keeping within the character of the Woodford Festival, a celebration of culture, the arts and the environment. Both concepts focused on creating unique experiences for patrons and had a strong focus staying with the festivals ethos of becoming carbon neutral. The proposals concentrated on designs for disassembly, choosing reclaimed materials and objects found in salvage yards or locally sourced on the Woodford site or nearby towns.

Each proposal builds strong connections to the sponsors in an unobtrusive manner. The Blues Bar concept celebrated the unique musical heritage of the region of Louisiana by paying tribute to the birthplace of the music genre of jazz and blues. The design featured a unique spatial experience by entering a narrative of intense sensory engagement with a music genre that emerged through black history in America. The Wine Bar concept distinguished itself from other existing bars at the festival by creating a statement of simple elegance. The proposed interior was a contemporary reminder to enjoy life, slow down and indulge a little. The space featured a timber bar made from reclaimed locally sourced wood, large lighting features made from recycled glass and bespoke artwork and furniture. The main element was a large deck overlooking a pond.

A parallel can be drawn between the temporary construction methods used in both bars and construction generally employed in exhibition design. While the five stages of the design process, formation, concept design, basic design, detailed design and construction are similar in designing semi-permanent and permanent structures, the temporary nature and designer-built approach of the Woodford installations exhibits different characteristics to the design process students had been accustomed to in-studio projects. Many design-learning activities were informed by:

- Innovation and best practice approach for semi-permanent installations
- Mutuality between university (Livespace) and community (Woodford)
- Understanding contemporary relevant research issues
- Building small scale research activities into the design process
In addition, the teaching and learning context included field trips, studio time, community consolation and reflective learning.

Figure 45 Woodford Client presentation. Image by author

Figure 46 Woodford site visit. Image by author
Figure 47 Wine bar proposal - Woodford Sidewood Bar. QCA student work

Figure 48 Blues bar precinct proposal. QCA student work
Again, the values of the client ensured a good mapping of the project onto the elements of the framework. Because the planning and governance procedures of the QFF are so robust, it forced the students to engage with and understand the importance and implications of such procedures.

As with Reverse Garbage, the students report a significant increase in the depth of understanding regarding the theories presented to them and their importance in the design process as a result of their participation in an actual project that made use of them.

<table>
<thead>
<tr>
<th>Principles</th>
<th>Practice</th>
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<td>Sustainability</td>
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<td>Quality of Life</td>
<td>User focus</td>
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Table 25 – The Design Futures framework and the Woodford project
Sustainability

Very much a major focus of the festival. Use of repurposed material was the primary mechanism for delivering this.

Affordability

Limited budget and desire to reuse, repurpose manufactured materials and complement that with natural materials ensured a clear implementation of these theories.

Collaboration & Transparency

Governance procedures of QFF ensured engagement with and deeper awareness of these aspects of the framework.

Innovation

Given the nature of music festivals, students were highly motivated to think creatively and deliver original solutions. This was enhanced by the temporary nature of the structures they created.

4.5.7 Student evaluations

Student feedback is a critical part of the development of the Design Futures curriculum from a number of points of view. In terms of classical pedagogical development, feedback is an important part of the test and iterate cycle. This is a prominent feature of all models of human centred design and critically so in Design Futures.

Student 1: This course was a reality check. I was thrown in the deep end and I knew that all the knowledge and skills learned in theory and studio courses were skills that are actually required on real life projects, but I never knew that at the time.

Student 2 - This internship was an eye-opener. Working on real projects gave me a good insight into what is required as a graduate.

Student 3 - I never felt ready to step into professional practice. This course was as close to getting an experience as possible while still at uni. It gave me sufficient exposure to all my practical concerns, and I feel a little more prepared.

Student 4: Coming from a studio-learning environment, I was confident in the design process and the aesthetics on space and presenting to clients but this course introduced me to the consideration of working to a budget. I was able to obtain quotes on all the joinery I had designed and documented. I was able to meet with the cabinet maker, discuss the designs, get feedback on the construction and material use and do some additional work experience with the joiner.
Student 5: What this course taught me was that every client has different expectations. There is not one standard or one approach. The Reverse Garbage client wanted a lot of details, working drawings, builders quote and a proposal on how they can undertake fundraising to turn the concept into reality, while the Woodford client had a designer-maker approach. They invited us on site and go through their collection of ‘rubbish’ to salvage pieces, which we could utilise in our designs. We met with the in-house carpenter/builder who then helped us build some of the structures.

Student 6: What was new to me was that building with recycled or salvaged content is more difficult than building with new material. I found it challenging to find the materials and then propose unconventional construction techniques. There were a lot of discussions with builders and tradies, tossing ideas and starting from scratch.

Student 7: Livespace provided a creative platform for me to focus on aspects of my design degree, which I had previously struggled with in the classroom settings. I got a lot more one on one time and was able to really work in a much more detailed approach. I also benefitted from seeing a project through from the design process to the construction phase.

Student 8: We were always told that our time at university is the only time where we can be crazy creative and take big risks with our proposals. But although Livespace was a real studio, I wanted to see if I could still push the envelope. And I did in creativity but not in observing any regulations. I quickly learned that I had to observe codes and standards when the builders questioned my designs. This got me thinking that they should probably prepare us much more rigorously early on and make it more explicit that we must be creative, but this cannot be exclusive of observing all the restrictions imposed by regulations.

Student 9: Livespace was fun. I really enjoyed working and learning with students from other cohorts. I would like to see a permanent Livespace studio where we have our desk and can work over the week with a studio director available.

Student 10: I learned a lot from working with clients and industry. I improved my communications skills and I am much more confident as a result. I learned to ask the right questions and translating this understanding into effective design decisions. I believe my design study is not complete without having been exposed to working on real life projects.

Student 11: I have a more realistic view of what will be expected of me as a graduate. Working in Livespace made me realise that my skills were lacking in comparison to other students. This made me try extra hard and I enrolled in a TAFE Revit course to gain more skills in drafting.
Student 12:- Livespace taught me many different design strategies different to the ones I use in the classroom. Learning happened at a much faster pace, and I had much more contact with staff.

4.5.8 Framing the student’s action research

Most projects address a specific element, or a small number of elements, within the framework. This may or may not be appropriate in a given situation but indicates that one of the primary contributions that such a framework might make to the teaching of design practice is to keep the entire scope in mind.

The structured outcomes from the student who engaged in a framework in the design of their project (4.5.3) is a strong indication of the power that a framework brings to design practice.

It is also interesting that the students naturally engaged with those principles and practices initiated by the client. On the one hand this indicates the willingness of both students and clients to apply those principles and practices under some circumstances but also highlights the importance of teaching the skills of redirecting clients in those cases (such as the Charleville Gallery 3.5.1) where the client may be less prepared.
6 CONCLUSION

Design is a creative activity that, by definition, imagines and then creates the future. Design Thinking is a process that maps that activity so that it is repeatable and teachable. Design Futures is the inclusion of the future impacts of design outcome into the Design Thinking mapping. The Design Futures Framework is a shorthand for capturing that map and identifying where in the process the various elements sit, how the connect to each other and influence the outcomes of the design process.

As such, it is a mnemonic that visualizes the process, helping us remember it and map elements of the process into the relevant place. In this, it is like the Double Diamond or the business model canvas that captures a pedagogical framework.

In this thesis Design Futures is a theory established to connect Design Thinking and Human-Centred Design to a sustainable and just practice. In the decade that it has been researched and taught by the author and colleagues, the urgency of the need for principled approaches to all forms of professional practice, especially design and it’s capacity to engender change, has increased significantly. Jem Bendell’s Deep Adaptation is a particularly blunt expression of that urgency.

The Design Futures Framework is the outcome of the research carried out for this thesis and applies the theoretical underpinnings of Design Futures to a series of tabular criteria for measuring the success of design practice in achieving sustainable and just outcomes.

This thesis also begins the process of refining and outlining the implementation and documentation of that framework.

Chapter two outlines the research into frameworks that have been applied to urban planning to embody different design approaches. That process was first applied to the Authenticity Framework (3.3), which maps in detail the relationships between elements of the theories examined in the preceding sections and the criteria suggested by that framework. That framework was developed by urban planners and Price Waterhouse Coopers and was not specifically concerned with Design Thinking.

In examining the application of that framework to interviews with practitioners and dwellers/users, the relationship between different criteria and how they relate to different parts of the Design Thinking process was examined.
That analysis was compared to the Nightingale Model (3.5.2), which highlighted serious questions around achieving just and sustainable outcomes compared to more widely held views of success. It also highlighted the difference between activities that influence the design practice and the long-term implications of the outcomes of that practice.

The recent work of Anke Buhl (4.2.2.3) provided a template for re-organising the criteria in a way consistent with Design Thinking, without losing those elements that had been found relevant. The resulting simplicity makes it easy to apply the framework while providing a map to the theoretical underpinnings and the tools and approaches required to implement Design Thinking.

The resulting framework was then retrospectively applied to Action Research carried out to test Design Futures in real world projects and again in the context of the pedagogy applicable to Design Futures. From that research a list of considerations for implementation and teaching have emerged and an outline of further research.

6.1 Outcomes

The outcome is a simple framework that provides a mechanism for separating and mapping the principles that underpin a specific design project, the processes used to perform the design and a performance measuring phase to provide feedback for future design.

These three phases are iterative in themselves and part of the iterative process of design. They are equivalent to a three-step version of the British Design Council's Double Diamond (Council, 2015)

In principle:

As presented here, the Design Futures Framework identifies and measures performance against three principles, Social Justice, Environmental Sustainability and Cultural Wellbeing. In the long term, it is important that economic viability and aesthetic values are brought into the framework. As those principles are at the heart of design practice since it emerged as a discipline last century they are not included in this framework, they are assumed. That will not always be the case.

Independently of the process of determining how those principles are relevant to the objectives defined by the client, the guiding principles of Deep Adaptation provide a mechanism for determining the rigour with which the processes of redirective practice should be applied to the brief. Ideally, the independence of that process would be represented structurally in the framework itself, but that has not yet been achieved.
That is one element of future refinement that has been identified.

In practice:

Testing the Design Futures framework against Action Research carried out as in the Design School of (name of University with-held for examination) to develop and teach Design Futures further refined the framework and highlighted the limitations and areas for future research defined below.

A wide range of deep considerations about the successful implementation of Design Thinking emerged as a result, not all of which are included in this summary.

One group of observations emerging from the Action Research concerned the relationship between the process and the principle which it is assumed to support.

Transparent processes are assumed in Design Thinking theory to lead to better outcomes because they allow the engagement of the user (dweller) in the design. Its effectiveness in achieving those outcomes, however, depends on the perspective with which it is adopted, the inclusiveness applied to the process and the awareness that those adopting the process have of the principles which informed the brief. Detailed and thorough methods of implementation are required and must be spelled out in the pedagogy employed for imparting those methods.

That is highlighted significantly by the examination of collaborative practice that, in theory, goes deeper than transparency, by engaging stakeholders in the design process. In addition to the theoretical support for this position in Design and Education practice and research, similar views have emerged in the fields of information technology and food production. Regardless of the significant body of theoretical support the Action Research revealed a complete lack of implicit understanding or acceptance of the principle and a requirement to develop new pedagogical approaches to embedding the principle informing that aspect of process into design courses. That is a precursor to the development of the practice and a pedagogy for promulgating that practice to ensure the results it is theoretically assumed to deliver.

In part, the gap between the outcomes observed by applying the newly extracted framework to existing Action Research and the outcomes it is designed to deliver is because of its retrospective application.

This speaks to the point that this thesis examines the literature and Action Research to develop a
framework, future research must refine the framework itself, its application and the development of its accompanying documentation and pedagogy.

As such it provides a road map for future research that can build on this framework and, most importantly, develop the pedagogy and practice to deliver the promise of applying the creativity and professionalism of designers to the wicked problems that face contemporary society.

6.2 Limitations

This research goes as far as proposing a useful framework and then retrospectively testing it against Action Research that was specifically established to test Design Futures theory in practice. The framework thus provides a method for examining the outcomes of that Action Research, while also exploring the relevance and usefulness of the framework in practice.

The limitations of that retrospective method have been discussed in detail and may be summarised as potentially reinforcement of assumptions about the impact of Design Futures by developing the framework and the Action Research independently but in the same environment and with the same students. That can be addressed by introducing the framework into the planning stages of design projects and testing the impact on real world outcomes.

The research also reveals that the elements of design practice that are embedded in design thinking and appear to be important for achieving its outcomes do not have a direct connection to the specific benefits sought or the criteria used to measure them. Thus, we might loosely connect transparency in practice with social justice outcomes, but there is little rigorous evidence as to how that outcome is achieved by the application of that practice. Thus, further research needs to be done on the implications of specific approaches to design practice and their importance and relevance in achieving particular outcomes.

It has already been identified (4.3.5) that Heidegger’s observations on the relationship between soul and space have not found their way into this framework, and that is a limitation that should not be forgotten, even though it is outside the scope of this particular research.

Similarly, the existing design practice focus on visual aesthetics and creating economic value have been assumed as the basis of design and this framework as an additional lens which should mediate the outcomes of a design practice focused solely on those existing concerns. To create a truly integrated framework, visual aesthetics and economic value should be integrated into the framework as values and driving principles along with social justice, environmental sustainability and cultural wellbeing. Such a framework would then provide an overarching guide to good practice and problem-solving. This research has maintained a narrower view for the sake
of clarity and realisation: The principles of aesthetic appeal and economic viability drive current practice and this research attempts to offset, or complement, that. If that had been included the scope would be too broad and the specific requirement to take responsibility for the long-term outcomes of one’s professional practice might well be lost.

6.3 Future research

The next step in that research is to explicitly apply the framework to the initial response of a client brief and hence, the framing of the problem. That will further test its usefulness and relevance in an external environment and explore the application of Bendell into the planning stage.

The research on teaching and embedding collaboration in design practice reveals the gap between theory and practice and suggests a relationship between an overarching framework and the recognition of the value of collaboration in this case and good practice more generally. Significant research is required to explicitly map the relationship between theory and practice and the pedagogical approaches required to embed them into the practice of emerging designers.

This framework has been developed and tested within Interior Design and Architecture courses, although many of the principles apply to Design Thinking in general. Future research could expand and test the framework in product design, corporate communication and branding.

Anke Buhl’s work is specifically related to the application of Design Thinking in corporate innovation, so the potential application of this framework goes beyond other design practices, to business more generally and potentially general approaches to problem-solving. Further research could test those broader applications and examine other practitioners applying Design Thinking to those areas.

Finally, the urgent nature of the climate emergency has engendered a wide range of academic and professional activity intended to address the issue of professional responsibility. In such a rapidly developing field, there also needs to be some research simply dedicated to tracking and mapping such activity to maximise the opportunity for success.
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