

**School of Humanities
Curtin University Sustainability Policy Institute**

Design and Sustainability – The case and practice for a sustainability designer

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To the best of my knowledge and belief this thesis contains no material previously published by any other person except where due acknowledgement has been made. This thesis contains no material which has been accepted for the award of any other degree or diploma in any university.

A handwritten signature in blue ink, reading "D J Galloway". The signature is written in a cursive style with a large, stylized initial "D".

10 July 2014

Abstract

This thesis asks the question “How do we link sustainability and design to begin the definition of a new profession of *sustainability designer*” that is a person who brings design thinking and processes to creating sustainable systems. It also addresses the question - “what is the underpinning construct that will drive their practice?” The initial section explores the linkages and similarities between design and sustainability: firstly, through the recognition that both design and sustainability address artefacts, processes and professions, and secondly, that internationally and within Australia there are many examples of practitioners combining these fields.

In the second section the modernist understanding of identity is examined. In this definition of identity a disembodied, self-aware, mind creates an inability to see multiple real world narratives which, when they converge, create wicked problems that sustainability is trying to address. In response the work on narrative identity by philosopher Paul Ricoeur is applied through a series of case studies to identify different components of a toolkit that can be used by practitioners working in sustainability. These components include: Personal – exploring the relationship between personal identity and design practice; Stories – an understanding of the relationship between multiple narratives and the creation of wicked problems; Intervention – what gives a practitioner the right and how should this be done to intervene in a particular situation; Leadership – explores a spectrum of leadership styles between heroic and consensus available for the practitioner; Physicality – describes an approach to converting aspirational statements about sustainability into real world projects; and Forum – creating a working space in which the sustainability designer can work with others to resolve wicked problems.

The conclusion is that there is a case and practice for a new emergent profession of a sustainability designer, however the narrative nature of identity requires that their work is incomplete and part of an ongoing process.

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Chapter 1 – Introduction

QUESTIONS ABOUT RESEARCH

For the first ten years of my professional career, whether I was working as an environmental engineer in the mining industry, in government, in policy, my own business, or academia, it always fascinated me that whenever I considered how we could make things more sustainable, or as it was referred to back in the 1980s “having less environmental impact”, all I was ever able to do was bolt things on the end of pipes. Whether the “things” and “pipes” were hard, engineered, pollution control equipment, decisions about environmental policy, or how environmental science was taught in academia – all of it was about trying to fix up decisions which had been made very early in the design process. By the time people like me, who want to make the world better, got a chance to have a go at the project it was generally too late. This led me into a career of trying to work out how we get to the start of the design process, when the major decisions were being made, and make those decisions drive sustainable developments and particularly in the design of projects.

I was discussing the challenge of working as a sustainability professional with Prof Peter Newman¹ of Curtin University specifically talking about continually trying to get to the front-end of project design processes so that sustainability principles could be built-in, rather than bolted-on, to new projects. His response was – “well, just write a thesis about what you have been doing for the past 20 years” which was a reasonable proposition for starting this research work. This simple statement however pointed towards a two basic issues – did I actually work with a specific definition of sustainability to frame my design work; and given that what I do *is* work at the front end of design processes how do I link sustainability and design and is it legitimate to claim this linkage in the light of what others are doing. This thinking frames this thesis.

Defining Sustainability

Having been with the development of sustainability since the 1980's and watched the evolution of a multi-ring circus where various groups have tried to explain sustainability by drawing pictures of interlocking circles. This approach has been found limiting by a number of authors (Bolis, Morioka, & Szelwar, 2013; Ahmed, Siwar, Damanhuri, & Islam, 2012; Lélé, 1991). In my design practice the explain-the-concept approach - “sustainability is the locus of the Venn diagram...” was not useful because there was nothing tangible that could be converted into a design. Because of this I strongly favoured approaches similar to that taken by Griggs et al:

First, however, we need to reframe the UN paradigm of three pillars of sustainable development — economic, social and environmental — and instead view it as a nested concept. The global economy services society, which lies within Earth's life-support system.....

¹ who ultimately became the supervisor for this thesis

Adapting this planetary boundaries work, and using recent credible scientific studies and existing international processes — such as the United Nations Framework Convention on Climate Change — we extracted a list of sustainability ‘must-haves’ for human prosperity. (Griggs et al, 2013, p 306, 307)

This idea of trying to avoid descriptions (multi-ring circus) and move into framing of high level goals lead to the question of how do we translate these high level goals into operational project design guidance. This exploration of how-to-frame lead to a rethinking of my design approach and a recognition that I had moved away from a modernist driven approach into an approach based in narrative identity as described in the philosophy of Paul Ricoeur. This is that while we have our high level framing of sustainability we need, for each new project to redefine and interpret this framing for the local circumstance.

As a research question this interest split into two intimately connected ideas: firstly, “How do we link sustainability and design to begin the definition of a new profession of *sustainability designer?*”, that is a person who brings design thinking and processes to creating sustainable systems, and secondly, “What is the underpinning construct that will drive their practice?” The double barrel question is sensible in the context of sustainability because concluding that there *are* sustainability designers seems an ineffectual and moot point without being able to say what these people actually *do*.

At the start of this document I want to describe one crucial concept because it frames everything that follows: that we need to apply a different way of thinking about identity to replace the modern-classical or Cartesian² approach to problem solving. The modern-classical approach, where the individual acts as a disembodied, self-aware, autonomous mind, has been linked to many problems that sustainability is trying to address³. The alternative explored is that *narrative identity* provides this alternative framework. Narrative identity is an ever-moving dance between the duality of *selfhood* – there is something that is unique and intrinsically *me*; and *sameness* – I share a *commonality* with others and the world around me, and this dance unfolds in space, in time and in community⁴. In this I draw on the work of the French philosopher Paul Ricoeur who devoted a lifetime to describing narrative identity.

And so this thesis is just that – a narrative identity. Significant parts of it are my personal story and explaining how my life events led me to work as a designer. It also talks about how I have been changed by my work. Other parts attempt to frame a sustainability designer’s praxis in the context of narrative identity rather than sitting back in the dispassionate, analytical space of objectivity and reductionist methods of the modern-classical model. The idea of narrative identity extends down into the structure of this thesis. The Methodology section describes and approach that is a mixture of stories, different ways of knowing, observations and reflections which, taken together, build an identity that now guides my design practice.

² That humans are the source of all understanding and that the world is a blank canvas on which humans unfold their rationality this is reflected in the seventeenth century philosopher, Descartes’s statement “I think therefore I am”

³ These are discussed later as *wicked problems* in Chapter 3

⁴ This is strangely reminiscent of the duality of the brain where one hemisphere is more rational sequential and about individual identity while the other is more spacial, visual, connected and about connection to the world (Ricoeur, 1992 p.196)

RESEARCH QUESTIONS

Denise Lach has said that sustainability is a concept like love and democracy (Gould & Hosey, 2007 p.150). While there can be general agreement about such concepts there is considerable difficulty deciding what they specifically mean. Design, like sustainability, is also a very slippery concept and is mostly defined by descriptors or quotations that are hung about by examples, exceptions or opinions. There are endless debates about what constitutes “good” or “bad” design and the question of fitted-ness, or “fit for purpose”, of a product, a practice or a circumstance. This idea extends further into the discourse about “design thinking”, a way of engaging people in conversations to produce designs that fit their worlds. Even if there is consensus between experts about what is outstandingly good design there will always be the individual who arrives and says, “Does it come in different colours” or some other killer phrase that indicates that they have completely missed the point of what design is about. This slipperiness also attends the idea of sustainability and linking the two in the wording “*sustainability designer*” or “*designer working on sustainability*” further compounds the situation. So this leads to the question being examined in this thesis – **“How do we link sustainability and design to begin the definition of a new profession of *sustainability designer* and what is the underpinning construct that will drive their practice?”**

METHODOLOGY

This thesis is about design and sustainability and, as such, I would preface the discussion about the methodology with a quote from Stuart Walker relating to methodology and design investigations.

I should also include a word on methodology. I am reluctant to call this work 'research' because the term conjures notions of scientific experiment or systematic, objective investigation and analysis. To adopt such an approach in design would be a mistake, Creative design studies do not always follow linear pathways, often they do not even follow logical pathways, and they are neither abstract nor objective. Therefore, they do not fall easily or solely within conventional understandings of systematic, scholarly research. The results of design are not verifiable by an independent investigator adopting the same criteria and following the same methodology. Indeed, for a given problem, if different designers were all to arrive at the same result we would be sorely disappointed. In design we seek and expect variety not consistency.

The path I have adopted here is probably closer to a phenomenological understanding than to scientific or scholastic research, by which I mean that the ideas and propositional designs are not only based on rational argument and the logical development of an area of interest. They are also the result of informed, personal consideration, introspection and reflection; lived experiences; direct awareness through the design process; and intuitive decision-making (Walker, 2012 p.4).

Stuart Walker's use of the idea of "phenomenological understanding" fits closely with the strong reliance in this thesis on the work of the hermeneutic phenomenologist Paul Ricoeur.

The methodology uses a number of frameworks for its structure: firstly, Patrick Dunleavy's "Opening Out" model of thesis construction (Dunleavy, 2003); secondly, the substantiation of writing within, and about, a narrative identity; and finally, case studies. These elements are discussed below.

Over the hundreds of years since the idea of theses was invented the nature of the doctoral thesis has evolved. In many cases the drive for certainty of originality led to a minute focus on a highly specialised area of study (The Group of Eight, 2013)⁵. This approach is well supported from within the modern-classical paradigm and leads to what Dunleavy describes as the "Focus Down" model of PhD writing: "*The most common, and most awful, sequence records four or five years' work, more or less in the order that it happened. The contents page typically shows two, three or even four literature review chapters (sometimes even more); followed by a pretty boring or predictable methods chapter; then only three to four chapters of detailed substantive, applied or empirical work; and last a very brief concluding chapter*" (Dunleavy, 2003 p.53).

An alternative approach, which fits with the idea of being *in* a narrative identity, is "*that there is also a need for broad, strategic and creative understanding flowing from the application of high-level analytical and conceptual*

⁵ An academic joke BS = Bull S*%t, MS = More S*%t, PhD = Piled higher and Deeper

skills that build on broad, cross-disciplinary knowledge" (The Group of Eight, 2013 p.19). This thesis fits that description. It also fits within Dunleavy's "Opening Out" model, in contrast to his "Focusing Down" model, and "... focuses tightly on the immediate issue to be tackled and gives only a brief discussion of the most recent relevant literature, plus a very compressed amount of essential set-up information. The second element, presents the author's key research findings and results. This is followed by a section of applied analysis, which tracks back and forth across what has been found out, and connects it up in detail with previous research and literature" (Dunleavy, 2003 p.59).

The difference between Dunleavy's "Opening Out" model and this thesis, is that his structure of literature overview / findings and results / discussion / application is applied across the whole thesis at the level of discussion of narrative identity, and then it repeats recursively on a chapter-by-chapter basis. The reason for this is that each chapter is a case study of one component of a sustainability designer's praxis, and each component needs framing within its own particular literature within the overall context of narrative identity.

A second element of the methodology is embedding the research in a narrative identity. Narrative identity builds on the idea of a duality of identity in space and time, as opposed the individually constrained world of classical-modern based research. Narrative identity underpins *sensemaking* where research is focused on giving meaning to personal or group experiences such as:

- how do I construct my own identity?
- the role of retrospection in identity?
- how I interact with the physical and cultural world around me?
- how things change over time and space? and
- are my constructs workable and plausible in the real world? (Weick, 1995).

Sensemaking has been linked to Ricoeur's work on narrative identity in numerous studies including (Erfani, 2011; Mootz & Taylor, 2011 p.183; Sanido, 2010). Narrative identity also underpins *placemaking* and effectively extends the idea of *sensemaking* into the physical world. As described on the Project for Public Spaces website – "*Placemaking is a multi-faceted approach to the planning, design and management of public spaces. Put simply, it involves looking at, listening to, and asking questions of the people who live, work and play in a particular space, to discover their needs and aspirations*" (Project for Public Spaces, 2013). Once again Ricoeur's work on narrative identity is linked to placemaking (Hunt, 2000; Kuhlbeck, 2010). In *international development research* the search for a national identity within a narrative, and on occasions the sectarian clashes that result, have been identified in numerous studies (Barnett, 2002; Brockmeier & Harre, 1997). Consequently with such a diverse range of applications it is asserted that the idea of narrative identity as part of a framework for research into sustainability design is a valid approach.

The third element of the methodology is to use case studies (Flyvbjerg, 2006; Gerring, 2007; Yin, 2009). As Yin states, "*In general, case studies are the preferred method when (a) 'how' or 'why' questions are being posed, (b) the investigator has little control over events, and (c) the focus is on a contemporary phenomenon within a real-life context. In case studies, the richness of the phenomenon and the extensiveness of the real life context*

require case study investigators to cope with a technically distinctive situation: There will be many more variables of interest than data points. In response an essential tactic is to use multiple sources of evidence, with data needing to converge in a triangulating fashion. This challenge is but one of the ways that makes case study research 'hard', although it has classically been considered a 'soft' form of research" (Yin, 2009 p.2).

A further structuring can be found in the descriptions of fields of investigation covered by terms such as systematic review, integrative review (Swartz, 2010; Paterson et al, 2001) and research synthesis described by Feldman (1971, p.86) as "*systematically reviewing and integrating...the literature of a field...using a characteristic set of techniques and methods*". All of these focus on integrating existing knowledge to form new ideas and insights rather than just exploring linkages and connections. Integration of existing knowledge and research to form new ideas, knowledge and interpretations, however each method proposes a varying balance between exploring for new insights as opposed to identifying correlations and other quantitative interactions.

The tools of the methodological framework align with Thorne's (2008, p.43) "careful and rigorous description, expanding or extending upon what is already 'known'". Other conceptions of this approach can be found in, for example Cooper et al (2009, p. 347) who describe this approach as 'qualitative meta-analysis' and 'research synthesis' where meta-analysis is defined as a "set of procedures for summarising the quantitative results from multiple studies". Related methodologies also occur in the medical sciences (Saratakos, 1998), urban research (Bartholomew & Ewing, 2009; Ewing & Cervero, 2010) and decision making in the policy domain (Light and Pillemer, 1984).

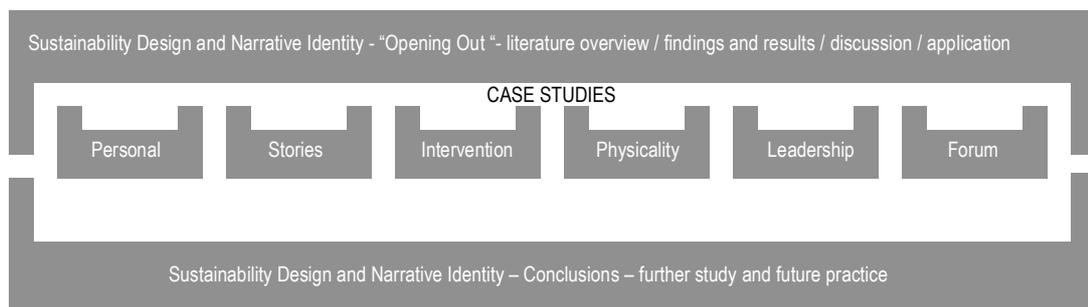
These research tools are orientated around mixed-method, composite source-layer approach and combines literature analysis, active participation, participatory observation, interviews with participants and theory development based within a practice-based *interpretive research*. Because this is a case study based investigation this framework avoids a reductionist research approach of controlling variables and limiting change to controlled circumstances. Various investigative tools were used including semi-structured interviews (Bryman, 2008), and on occasions giving the participants interview questions prior to the interview to guide their thoughts to allow more in-depth reflection by the participants and for the interviewer or interviewee to discard the questions if they do not serve their purpose of bringing clarity to the situation (Kithcin & Tate, 2000, p 215).

Much of the information gathered was obtained because I was personally involved, as a designer, in the evolving projects that formed the basis of the case studies. As a consequence many of the observations reported from first hand experience as a professional engaged in the design process. None of the case studies were generated, post hoc, from a remote distance of an academic observer. In cases where ethical sensitivities emerged from reporting from this position the identities of the people involved has been obscured by coding the response or generalising the observations.

So to summarise, this thesis examines personal design praxis within a real world context, and attempts to develop a framing for this praxis that definitely fits within Yin's description. Case studies also fit within the idea of

narrative identity described above and can be considered to be a very appropriate and consistent tool for reflecting on narrative identity. Each of the case studies uses a similar suite of skills in this “triangulation” including review of literature, conversations with, or surveys of, the main participants, some level of data analysis if it was available and appropriate, observations of events and reflections upon contemporary media.

The methodology was: (1) use a literature review to examine how to link sustainability and design into a profession of “sustainability designer”; (2) substantiate narrative identity as the basis for the praxis of these people; (3) use case studies to illustrate how this praxis has worked out in real world circumstances. From this (4) conclusions are drawn on the future for sustainability designers. Visually the methodology looks like this:



THE CHAPTERS

The research is spread over a number of chapters with a foundation laid in Chapters 2 and 3 before the Case study chapters.

Chapter 2 *Design and Sustainability* investigates how sustainability and design are linked from four perspectives. Firstly, a comparison is made between sustainability and design as activities that are intimately concerned with production of artefacts, generation of processes and support of professions. It follows that design is characterised by a need to resolve conflicting values, needs both intuitive and logical thought, is multidimensional, and tends to be context specific.

Secondly, the linkages between sustainability and design are explored by looking at the role of design to solve *wicked problems*⁶. Horst Rittel first used this term in the 1970s (Rittel & Webber, 1973). He examined emerging, apparently insoluble, problems in the planning system and identified that these problems were rooted in the “modern-classical model”. The term “modern-classical” refers to an historic period after the Reformation, Renaissance and Enlightenment that saw the rise of human thought to be the measure of all things. In this thesis the term “modernism” is taken as being equivalent to Rittel’s statement the “modern-classical model”.

⁶ That is, interconnected social, environmental and economic/political issues that are complex, multifaceted, recursive and non-linear; and which the source of the problem is often strongly embedded in the problem itself. Horst Rittel, who developed the concept of wicked problems in the 1970s, saw their origins in modernist, reductionist, thinking and showed that they are not solved using the traditional modernist tool kit of deductive logical processes, hierarchical administration, cause and effect models. This is discussed later in the thesis.

Thirdly, the question of who else is linking these concepts is examined specifically looking at the Danish Design Centre, the British Design Council, Bruce Mau's Institute Without Boundaries and his book *Massive Change* (Mau, 2004) and, in Australia, RMIT University's design approaches to resolving wicked problems and Tony Goldsby-Smith's work on revisiting the role of design in projects conceptualised within the historic linking between rhetoric and logic. Finally, there will be an examination of the work of Professor Stuart Walker of Lancaster University who has led the field in the area being considered in this thesis. These are a sample of the global field involved in the arena of sustainability design and although far from exhaustive they are hopefully able to give the necessary perspective on which to build the thesis.

Chapter 3 *Sustainability and Wicked Problems* provides the overarching framework for the research. It asserts that many of the problems encountered by a sustainability designer are *wicked problems* that are generated from a convergence of narratives. The problem is that the modernist view of the world has stripped our culture of the capacity to easily see these convergent narratives and so we try to revisit the wicked problem as if they were something isolated in time and space and able to be addressed by linear, analytical processes. Paul Ricoeur's work on narrative identity is used as an alternative construct for the sustainability designer.

After building an overarching framework in Chapter 2 and Chapter 3, the practice of a sustainability designer is then examined in the following chapters in the context of the diagram shown in Figure 1 below. As the diagram shows, the work of the designer is something that unfolds in time and has some linear characteristics. It also shows that the practice of design is non-linear, allowing and requiring various "tools" to be used as the circumstances requires. Each of the following chapters discusses one of these tools.

The model is based on the idea that a sustainability designer will be asked to intervene in a particular circumstance, generally a wicked problem, and they will need a "tool kit" of skills which they can call upon to resolve the wicked problem. The tool kit is what I have identified as the essential components during my twenty years of practice as a sustainability designer. I do not consider this list as exhaustive and probably it should be considered as high-level headings, interconnected, but can also be considered as specific disciplines each with their own practitioners. The challenge for the sustainability designer is to know enough about each area to apply these skills and/or find people who can do that specific task for the designer as part of the wider project.

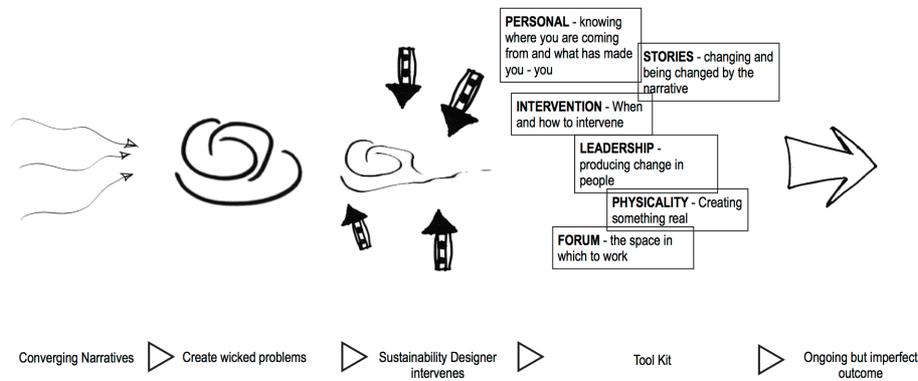


Figure 1 Conceptual Model

This work grows out of my personal practice and running a design consultancy business. I am called into specific circumstances to work on specific projects, consequently the chapters have grown out of this project emphasis. As outlined the knowledge gained could not have been achieved without this personal involvement thus it is a thesis grounded in inductive, action-based research. Others, who are equally committed to a sustainable future for the world, working in corporations or government, will have different emphases for each component of their skill set outlined here but they also would not have gained this knowledge without their involvement. Each of the chapters starts with an overview of the relevant literature, followed by the details of the study and an analysis of its implications.

Chapter 5 *Personal* gives an introduction to my own personal story and how that has led me to become a sustainability designer. The merit of this chapter is that it illustrates my narrative identity and how I have placed myself in relation to my practice. The modern-classical idea of the dispassionate, scientific, unengaged observer just does not match how I live or how I work and is considerably out of place in a thesis fundamentally about inserting the designer into the real world. This is consistent with the action research model outlined above.

Chapter 6 *Stories* explores how understanding convergent narratives can help the designer understand the wicked problems on which they are working. The case study was an international development project on which I worked in Vietnam. Understanding the global and national narratives that unfolded around the Vietnam-America War helps to explain the many difficulties with that development project.

Chapter 7 *Intervention* looks at why, how and when a sustainability designer should intervene in a particular circumstance. Once again the idea of narrative is important here because, within a modernist view, the inclination to intervene is largely predicated on a personal assessment and individual decision often reinforcing a

wicked problem. The case study is also from Vietnam and draws a comparison between the development project described in Chapter 5 and a similar but different project but a completely different approach and a far more positive outcome.

Chapter 8 *Leadership* is a reflection on how a designer uses different types of leadership styles. These are seen as being on a spectrum between “heroic” leadership where the leader is at the front, and shapes and directs the outcome; and “consensus” or “animating” leadership where the leader is immersed in the group and facilitates change from within. The case study examines the leadership shown by the Government of Western Australia in the changes to the tenure and management of the Ningaloo coast of Western Australia between 2002 and 2005 in response to a policy decision to change from pastoral⁷ land use to nature conservation and tourism.

Chapter 9 *Physicality* recognises that sooner or later, in sustainability design, something has to happen in the real world. The designer has to help people and projects to move out of the aspirational level of high concepts about sustainability and into the place of artefacts and processes that operate in space and time, in the human community and the landscape.

Traditional design processes are presented as a cyclical process where an idea is converted into a design that is then prototyped, and finally taken into production and/or operation. Feedback from the consumers who are seen as being a component of the capitalist production system then shapes future iterations of the design. This chapter suggests that in designing for sustainability the traditional design process could be enhanced by placing the design process in the context of an unfolding narrative; engaging people in maintaining and developing the narrative around the project, avoiding, if possible, major discontinuities in an existing narrative; and replacing the idea of feedback within the design process with the idea of recursion. The case study for the *Physicality* chapter is a design I produced for an ecotourism resort on the Ningaloo coast, at the same time as the Government was changing the land use in the same area, as discussed in the previous chapter.

Chapter 10 *Forum* considers how to create a working space in which people can interact to resolve wicked problems. It challenges the idea of the “Tragedy of the Commons” and presents the idea that wicked problems have a significant component that is about finding better ways to manage Common Pool Resources (CPR)⁸. If we take the modernist prescription then the common assumption is that people will naturally work for their own self-interest and consume the “commons” and perpetuate wicked problems. In contrast there are conditions or principles under which people will collaborate to manage CPRs. The challenge for the sustainability designer is to create working spaces where these principles can operate.

The case study in Chapter 10 is the *2029 Project* undertaken by the City of Greater Geraldton, Western Australia, between 2010 and 2013. The 2029 Project was an extensive deliberative democracy project that sought, in essence, to create a system that would produce the sustainable management of the Common Pool Resources⁹ that were under the mandate of the City on behalf of its citizens. I was actively engaged in 2029 Project, both

⁷ Rangeland grazing or ranching

⁸ Things that belong to everybody but are under no one agent’s control.

⁹ Such as city lands, city structure, transport infrastructure, energy supply, town planning scheme, budgets.

working with the people who were designing and implementing it and facilitating some of the consultation processes.

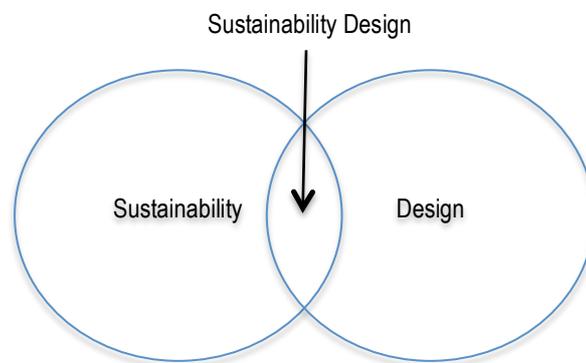
Chapter 11 *Conclusion* summarizes the work from the previous chapters. It reviews the original hypothesis of the need for a profession of sustainability designer and the nature of their practice. It also highlights the need to recognise the imperfection of the final outcome and that the unfolding narrative contains the seeds of a new narrative. Rather than despairing at the imperfection of this situation as would occur within the modernist view of the world, this is viewed as an ongoing process of creation and design; and clearly recognises that the sustainability journey is a long and fruitful one.

The next section tackles the first part of the research question, linking sustainability and design to suggest a new profession of sustainability designer. After this we will embark on the journey into the framing narrative identity and the impact it has on the praxis of sustainability designers.

Chapter 2 – Design and Sustainability

This chapter is devoted to exploring the relationship between design, sustainability and the designer. The assumption being tested is that, fundamentally, sustainability and design are very similar activities or processes and, in fact, sustainability can be considered as an extension of design thinking and therefore can be linked within a discipline called “sustainability design”.

There is an argument that sustainability and design are two completely different spheres of activity and different disciplines undertaken by different groups of people. It is acknowledged that they are different, but also have significant overlaps, as shown in the diagram below.



This chapter explores some of the facets of this area of intersection and the role of a person, such as myself, who works in this area. This question is approached from two directions: firstly we look at how design can be constructed as being about artefacts, processes and as a discipline and extend into sustainability; the second direction is to see who else is talking about, or behaving, as a sustainability designer.

EXTENDING DESIGN INTO SUSTAINABILITY

In the case of design, at one end of the multitude of discussions about “what is design” there are detailed analyses, usually accompanied by lots of charts and arrows (Zeng, 2004, 2011). Typically engineers love this sort of analysis – as the University of Western Australia’s mechanical engineering handbook almost apologetically states “*Although there is no mechanistic series of steps leading to the 'correct' solution of a design problem, there are techniques which may be learned for tackling design with confidence and with reasonable expectation of achieving a 'close-to-optimum' solution*” (University of Western Australia, 2009). At this end of the spectrum design is essentially a rational, logical, sequential process intended to solve problems or, as Jones put it in the 1970s, the purpose of design is to: “*initiate change in man-made things*” (Jones, 1992 p.4). At the other end attempts to define design drift into an almost wordless, metaphorical space: “*If a design doesn't feel good in your heart, what the mind thinks doesn't matter*” – April Greiman (Lismore TAFE, 2013); Ellen Lupton - “*Think more, design less*” (Heller, 2009); or as Archer wrote “*Design is the field of human experience, skill, understanding and imagination that is concerned with the conception and realisation of new things and events*”

and particularly with man's appreciation and adaption of his surroundings in the light of his material and spiritual needs" (Archer, Baynes, & Roberts, 2005 p.15). Other writers have taken a deeper approach (Elkington, 1998) and looked at sustainability and design as extending into how companies, how they interact with their customers and how they build trust over environmental and sustainability issues.

One attempt to clarify this situation is to divide design into:

- A discipline that explores the dialogue between products, people, and contexts (Design Council, 2013; Australian Institute of Architects, 2013; Design Institute of Australia, 2013; Hobbs, 2002)
- A process that defines a solution to help people achieve their goals (Baskerville & Pries-Heje, 2010a, 2010b; Crewe, 2012; Starik & Kanashiro, 2013)
- An artefact produced as the result of solution definition (Kirkeby, 2011; Kroes, 2002; Lawson, 2008; Ralph & Wand, 2009)

In reality it is not possible to draw such a clear distinction between these definitions as each one feeds into the other – a designer can use the dialogue between people, their contexts and a product to identify a need that can be addressed through a process that produces an artefact that will address the need and so on. Each of these categories is investigated starting with a brief exploration of the design category and then examining how this unfolds for sustainability.

Artefacts

To unpack this component of design it is probably easier to start at the end, by discussing the nature of an artefact. It can be a physical thing, where the thing's physicality and usefulness enable it to have discrete boundaries in space and time (Ulrich, 2006; Kroes, 2012). Examples are almost limitless – an iPod, a Citroen CX, a wheel. An artefact can also be a procedure where a sequence of events taken together, create a unique solution. For example a business management system, community consultation, or developing a new surgical procedure. Finally an artefact can be a way of thinking and viewing the world, for example a strategy to change the community's opinion about smoking or climate change. Despite these examples being about "thinking" their connection back to the physicality of the real world makes them examples of artefacts and requires that they be part of the exploration of how to turn sustainability aspirations into physical entities (Birkeland, 2002)¹⁰.

An artefact must also have a degree of "*fitted-ness*" or be "fit for purpose" in its application otherwise it can be considered a poor design. *Fitted-ness* can mean that the design creates a positive impact on cognitive processes, that is, it is recognised by the user or observer to be well adapted to addressing human needs or other needs¹¹. Alternatively processes once designed and implemented can be described as "making sense", the implication being that, although it is a process, it fits in well with how decisions are made either individually or collectively.

¹⁰ See later in the chapter for a discussion about sustainability and design

¹¹ For example a design of a ecological rehabilitation program may have a high degree of *fitted-ness* for the objective of reintroducing an ecosystem into a degraded area

This does not necessarily imply, as is discussed later, that *fitted-ness* when examined by cognitive processes, is necessarily logical. Good design outcomes are often praised as being “intuitive” rather than logical or rational, which would seem to imply that it does not really matter so much *how* a designer gets to a solution, if at the *end* of the process “it makes sense”. This characteristic has been commented on frequently when a designer is able to explain the logic of a design.

In addition to impacting cognitive processes, an artefact has an emotional impact; that is, it is able to resonate with a person or a community’s perceptions, feelings, cultural values and prejudices enabling them to focus and identify with their emotional response to the artefact. Designing for *emotional fitted-ness* can cover a wide range of feelings, not all of them necessarily positive and uplifting (Norman, 2002). For example, returning once again to the example of smoking, an anti-smoking campaign may be designed to evoke feelings of fear and revulsion toward the effect of cigarette smoke on the smoker’s lungs and health. Conversely the Australian Tax Office’s campaigns for correct reporting of tax often appeal to the positive values of fairness and not cheating, rather than the aversive feelings of the risks of being caught, which is probably a useful approach because the chances of being caught, for small levels of evasion, are statistically very low.

A further example of design impact is how an artefact can be designed to *appeal to the senses* and consequently look/smell/taste/sound/feel good. For example, the structures at either end of the Sydney Harbour Bridge are totally irrelevant to the integral strength of the bridge and have no bearing on its capacity to carry vehicles and people; the designers put them there because they considered, and millions of people have agreed with them, that the Bridge would look odd without them. As an aside, the current predilection of architects to talk about “poetic interpretations” is probably an attempt to reference intuitive insights of design in a reflexive, sensory manner, particularly as the post-modern framing of reality has excluded any intuitive insights based on major narratives.

Finally a design artefact often has an anthropomorphic impact, that is, it fits the human body. This is perhaps the easiest of all the aspects of *fitted-ness* to understand. Everybody at some stage has picked up an object and thought “this feels natural/comfortable/easily used”. This *fitted-ness* has to do with the artefact having a spacing, texture, distance, weight, slope that enables it to fit well to the human body. For example many architectural design codes have standard ranges of sizes of stair treads, ceiling heights, chair depths all of which are predicated on average human sizes. There is, however, the apocryphal architectural design story of a stadium in Tokyo that had been build pre-WWII and proposed to be used for the 1964 Tokyo Olympics. The designers had to reduce the capacity of the stadium by several thousand people because, in the period post-WWII the increasing Japanese prosperity had meant that diets had improved and Japanese backsides, and presumably the rest of the Japanese bodies, had got larger.

While anthropomorphic impact is one element of *fitted-ness* of design this has to be challenged with the recognition that sustainability has a strong ecological component and as such the concept of fitted-ness has also to be applied to how design meshes with the bio-geographical systems and biota that make up our planet. This

question has been argued extensively by a wide range of practitioners and theorists including deep ecologists (Macy, Seed, Naess, & Fleming, 1988), industrial ecologists (Ayres, 1989), architects and urban designers (Beatley, 2011) and consequently this idea of fitted-ness needs to be redefined to include bio-geographical systems.

Having discussed briefly the nature of design and artefacts we now have to ask, what constitutes a sustainable artefact, what makes it sustainable, or the even more challenging question, is one artefact more sustainable than another? There are four conceptual ideas from thermodynamics that help unpack this subject without actually getting into detailed comparisons of one object against another.

The idea of linking thermodynamics and economics in an environmental context is well established, including resource depletion (Lawn, 2006; Kümmel, 2011), the comparison of classical economics with self-organising systems and processes (Burley & Foster, 2010) and the application of thermodynamically driven analytical frameworks for things such as life cycle analysis (Bakshi, Kim, & Goel, 2011). As an illustration of the strengths and weaknesses of this approach (Minami, Nagai, & Taura, 2005) use the idea of "Latent Functions" where a latent function is defined as a new function that appears when an artefact's surroundings change. This is a fairly complicated way of talking about recyclability, which is, in turn, one of the major criteria of sustainability of an artefact. If the number of artefacts with abundant latent functions increases in society, the decrease of wasteful action and the improvement of recycling can naturally be expected. The authors illustrate this idea with the example of a clock where the latent functions that can be derived from recycling the glass and wood are far greater than the functions from recycling the original object. The criticism of this approach is that it does not account for the complexity of the object or the ease of accessing the material or functions embodied in the object, which opens up the question of the thermodynamics of recycling and particularly the application of the Second Law of Thermodynamics to energy, materials and information. The Second Law broadly states that a system will tend towards minimum energy and information and maximum randomness. This explains why it is "natural" that energy and material in an artefact will become increasingly inaccessible as a result of it being made and used. Correspondingly, extracting an artefact's useful components (latent functions) from the products of its decomposition/deconstruction is generally more difficult than using raw materials in its making (Floyd, 2007; Leff, 2007)¹². The other issue to be considered is the role of information in recycling. There is a general principle that it is better to use information to guide a system than to continually allow use of physical energy or materials¹³. If an artefact is designed for recycling/reuse, that is it has high levels of information contained within it that will enable it to be recycled, then it is possible to minimise the levels of physical energy needed to recycle that artefact by following a low entropy pathway (Duncan & Semura, 2005).

Thirdly, the thermodynamic question also opens up two other lines of discussion about the sustainability of artefacts and processes, specifically the origins of energy used in the production and operation of artefacts and the condition of the materials. If the energy that is used comes from renewable sources, which ultimately refers

¹² There is considerable discussion about the concept and role of entropy in relation to economics and sustainability. The consensus is that ideological application without close attention to details of context and specific circumstances can be flawed, however the underlying principle of the effect of entropy on recycling of artefacts is still valid and increasingly being rigorously investigated.

¹³ This is a reflection on the concept that information is the inverse of entropy. Shannon (1948). *A Mathematical Theory of Communication*. The Bell System Technical Journal, 27, pp. 379 – 456 presents a somewhat esoteric discussion on this question which has been extended conceptually into the question of recycling at an operational level although not generally at a quantitative level. The idea of increasing informational content enablen the decrease of physical energy required for recycling fits into the general idea of the Second Law of Thermodynamics and, more importantly, the real world experience of trying to recycle artefacts.

to the sun or nuclear energy in the earth's core¹⁴, then it does not really matter how much energy is used to recycle. If however the energy for production and recycling comes from fossil fuels then the collateral damage from greenhouse emissions can be very significant. This argument can also be extended to the use of materials: if materials used are recycled then it is of less importance how much is used in comparison with raw materials from the environment, of course giving due recognition to the type and source of energy used to drive the recycling process.

This statement has of course to be tempered with a recognition that sustainable artefacts are not just about getting the basic physics correct or even if the methodology of assessing sustainability of an artefact has its roots in physical concepts. The reality is that there is another layer of important non-physical issues driven out of human presence in, impact on, and perception of the world. The real world is so complex that resorting to basic physical principles to analyse sustainability is beyond the capacity of science and mathematics¹⁵. In addition to this situation there are the imponderable questions about how humans use artefacts, raising questions of how long are they used before they are discarded, how much maintenance is required to continue their operation, what energy source is used to power them and what they are used for. As an extreme example does having renewable rocket launchers for nuclear missiles create of a sustainable artefact? These are the types of issues that are being grappled with in Life Cycle Analysis and related labelling and certification processes (Emblemsvåg & Bras, 1999; Horne, Grant, & Verghese, 2009; Norris, 2001; Swarr et al., 2011)¹⁶.

Secondly, another implication of the impact of the Second Law of Thermodynamics is that information is subject to entropic processes (Maroney, 2009), that is information and information transfer are also subject to irreversibility in the same way as physical objects in the physical world. Similarly maintaining information requires inputs of information, for example the energy used to maintain data centres. While it is true that information does degrade and increases in entropy, it can be reasonably asserted that it is better that we improve the sustainability of physical systems through the introduction of information¹⁷ and incur this slight entropic penalty that will result, if this is offset by changes in physical systems that sustainability seeks to address – protection of biodiversity, clean air and water, and climate change. A very simple example – it generally takes more information to run a dispersed grid of renewable energy sources and this information takes energy to maintain. Despite this the ecological benefit of the change from fossil energy to renewables more than offsets the additional energy it takes to maintain the information required to run the grid. The converse however can also be true – eco-housing has gone through a phase of relying on highly information-intensive systems to, for example, open and close windows automatically. The energy to maintain these systems can often be significant when considering manufacture of the window automation systems – when a simpler solution is to train the people in the house to open and close the window themselves!

¹⁴ This is not referring to fission/fusion nuclear power stations but rather the role of nuclear decay in heating the earth's core that can then be tapped for hot-rock power generation

¹⁵ This is illustrated by the discussion around the predictability of climate change models as Michael Manton states "In summary, there have been internationally recognised demonstrations that numerical models can effectively simulate and predict weather and climate variations on a range of scales. However, the chaotic nature of the climate system means that there is increasing uncertainty in predictions as we look further ahead. For this reason we would not attempt a 'forecast for 50 years ahead' in the manner of a weather forecast." (Manton, 2006).

¹⁶ There are many different approaches to determining the sustainability of artefacts at the operational level, rather than the theoretical level discussed here. These range from Life Cycle Analysis approaches that are highly mathematical and analytical, those that emphasise analysing production processes, through to those who define sustainability using a scorecard/labelling based approach to measuring sustainability, for example *Global Reporting Initiative (GRI) Sustainability Reporting Guidelines (2000)*, *Social Equity Performance Indicators*, *U.S. Green Building Council LEED Rating System*, and the Australian *BASIX* assessment of building

¹⁷ For example - using reverse osmosis desalination, to produce fresh water, has a higher information penalty than using steam distillation, a simpler system, but this entropic loss due to increased information use is more than offset by the much lower use of energy in the desalination process.

Thirdly, there is a considerable body of work emerging out of thermodynamics looking at self-organising systems and sustainability. The principles here are that if there is a sufficient energy and/or information gradient then a system will emerge which will organise itself to degrade, entropically, this energy and information gradient. These systems are sometimes referred to as “attractors”, “emergent systems” or “self-organising systems” (Rees, 2010; Rotmans & Loorbach, 2009; Sterman, 2012). Some reflections on this concept are picked up in Chapter 8 on Leadership. The excitement around self-organising systems seems to be that as an analytical framework this is very good way of *describing* behaviour observed in complex systems such as banking, ecosystems, crowds of humans, traffic movements and fisheries. The challenge for the sustainability designer is that although complex system behaviour is real, it is very difficult to use this insight to *change* the system because once the behaviour has emerged, generally the system has established a stable state. One insight that may however be of use is that a sustainability designer may be able to ask “What are the information and energy gradients that are actually driving this system and how hard will it be to change these gradients?”.

The final concept from thermodynamics that can assist sustainability design is the idea of the *boundary*, which is probably more useful than the above discussion about self-organising systems. The First Law of Thermodynamics looks at the transfer of energy and matter across an arbitrary boundary around a process. These boundaries can be nested within each other such that larger systems can be built from sub-systems each interchanging energy and matter (Global Reporting Index, 2012)¹⁸. The lesson for a sustainability designer is that while other disciplines tend to be able to draw arbitrary boundaries around their design projects to make the job easier¹⁹, the interconnected nature of sustainability means that all boundaries have to be fuzzy and this fuzziness needs to be recognised when considering transfer of energy, information and matter across these boundaries. The discussion of how to use and cross the project boundary opens up the discussion of the role of design process and sustainability.

Process

The design process has been much discussed and, reverting back to the statement in the introduction to this chapter, covers a range from highly structured methodologies that can help to eliminate spurious outcomes or quickly uncover fatal flaws, through to blinding flashes of insight that produce an elegant, simple and fix-all solution to a thorny problem.

These much-desired, simple solutions of logical processes or flashes of intuition are often referred to as “silver bullets” – the one thing that can kill the multitudinous problem presented by a werewolf. But in the real world of difficult sustainability problems these simple solutions are very rare, like werewolves and silver bullets. These difficult sustainability issues are discussed late in this chapter as *wicked problems*. The *modernism* discussed in some detail in the next chapter has consistently sought “silver bullets” to resolve *wicked problems* but generally these one-shot solutions are now often recognised as being the source of more problems.

¹⁸ This idea of the boundary has been examined in the Global Reporting Index where a specific prescription has been provided for determining the boundary that should be applied to GRI reporting projects.

¹⁹ This is particularly true of the planning and architectural professions which have produced some absolutely amazing designs with shocking sustainability outcomes purely because they did not pay attention to what is outside and crossing their project boundary.

Despite the difficulties created by attempting to address wicked problems there are a number of characteristics of design as a process that need to be considered. Firstly, design processes respond to a need – someone wants, or potentially wants, the artefact the designer is producing. This is in contrast to the artist who produces an artefact out of his or her own internal creative insights and drive. Essentially the artist employs their creativity to produce artefacts that have no immediate usefulness other than what is accorded to it by themselves or their critics (Avital, 1992; O’Nolan, 2009). In fact an artist’s dedication is sometimes measured by their commitment to producing their art, irrespective of whether or not it is responding to a need or appreciated by the public or critics.

Secondly, the design process is a shared activity, whether the sharing occurs in collaboration directly on the production of the artefact, if it results from the designer interacting with those who will use the design, or the client who defines the need. It can be argued that the better the design the more sharing of the process has occurred. There are many designs that have been produced without this collaboration and have produced disastrous results. Obvious examples are the 1960s Modernist apartment tower blocks on the outskirts of Paris, in Carlton, Melbourne, or in the centre of Johannesburg, built as a response to urban crowding and the need for cheap public housing. While they were inspired by Le Corbusier and modernist architects’ ideas of clean, safe machines in which to live, replacing sprawling slums with white monoliths surrounded by gardens, they have generally been found to be seriously deficient places for humans to actually live in the way that they were originally constructed, despite the well-articulated metaphors used by their designers. There are also many examples of how these living spaces have been retro-fitted to make them liveable (Bates, Lane, & Power, 2012; Cheng & Lin, 2011; Mann, 2013) that use a range of approaches including self-determination by the residents, private ownership, retro-fitting and remodelling the structures. A similar and broader analysis can be applied to the ethics of professions such as engineering (Bowen, 2009). But despite these good initiatives it can be argued that these designs could have been so much better and the need for retro-fit greatly reduced if their design was driven less by a modernist paradigm and more based what the residents actually wanted or needed.

Thirdly, the design process is a translation or synthesis. A designer takes many different and disparate factors and works them into an artefact. In doing this, the designer conducts a large number of optimisations and trade-offs that often, at least early in the design process, occur unconsciously. Later in the design process more formalised techniques such as cost-benefit analysis, testing of materials, or trialling an administrative procedure are often used to refine the artefact.

The explanation of the translation described above also provides an example of a fourth characteristic of the design process, that it generally is iterative and recursive. Iterative, in that it requires continual adjustment of key variables until the point where an optimum output is achieved; and recursive, which implies that there is some kind of feedback occurring between components of a design where self-similar characteristics are found to be nested inside each other. For example a taxation system based on self-reporting, monitored by occasional audits, tends to see the same self-monitoring approach applied to various forms of taxes across government. Another example is in natural resource management where catchment management approaches are generally valid whether the catchment is large, small or a sub-catchment within a larger catchment. Recursion also has

implicit within it the idea of learning and the capacity of the process to reflect, gain an insight and apply this to the next iteration of the design process (Zeng, 2011²⁰; Institute for the Creative Process, 2009).

Fifthly, despite the comments above about a designer not being an artist, the design process definitely does involve creativity. As has been noted earlier, design creativity can be considered different to the direct elaboration of an inner vision as would occur with an artist. The creativity of a designer may be considered as the capacity to use a process that considers many different disparate themes, integrates these themes incorporating essential features of each theme so that, at the end of the process, the design can be considered to have achieved the criteria of fitted-ness.

Creativity in the design process also enables the designer to exercise the capacity to “cut through the extraneous material”, that is, to use an intuitive insight to see how the disparate themes affecting a design can be pulled together. The design process therefore can be considered to involve efficiently finding optimal solutions. While it can be argued that given enough time and enough resources any individual or group can ultimately find an optimal solution²¹ a design process run by a good designer produces optimal solutions far more efficiently than other approaches.

In as much as there is no shortage of examples of sustainable artefacts there is no shortage of examples of processes that can be used, or at least are claimed to produce sustainable outcomes. Generally these approaches tend to be associated with codification and standardisation of techniques and are usually associated with taking an existing design framework and greening it or extending it into sustainability areas (Edwards, 2013; Parrish, 2012). For example, the Building Code of Australia has now been extended to define how to build buildings with multiple, and increasing, numbers of green stars. In this context sustainability can more appropriately be considered as a *process* within a sustainability conceptual framework. Similarly there is a whole body of work associated with creating processes within human organisations to support sustainable outcomes (Benn, Edwards, & Angus-Leppan, 2013; Haugh & Talwar, 2010; Benn & Dunphy, 2007). The discussion later in the chapter on the work of Dr Tony Goldsby-Smith also illustrates of this attention to process.

Finally, this discussion has emphasised the dual nature of design: on the one hand intuition, insight, recursion are valued in sustainability design; however the design process is also rational and involves logical and deductive thought. Both of these drive the development of sustainable processes. In any good design process the question of “why was a particular decision made?” should always have an answer. The challenge for the sustainability designer is to recognise the continual interplay between intuitive insight, logical explanations and deductive processes, how much it is possible to systematise design (as would be liked by the engineers), and how much intuitive flair is paramount (as would be liked by the fashion industry) (Walker, 2006 p.71). We now turn to the more vexing question of should sustainability design be considered a discipline with, for example, certified sustainability designers.

²⁰ This reference is an extremely dense application of the mathematics of set theory. It has been selected because it gives a formal mathematical basis for recursion in design, an alternative is to consider - *The creative process is not just iterative; it's also recursive. It plays out "in the large" and "in the small"—in defining the broadest goals and concepts and refining the smallest details. It branches like a tree, and each choice has ramifications, which may not be known in advance.* (Institute for the Creative Process, 2009)

²¹ For example, the old adage about enough monkeys and typewriters eventually producing the collected works of Shakespeare

Discipline

The idea of a discipline implies that there is a practitioner using a suite of techniques, methods or approaches with which they are very familiar and are able to deploy these skills in a range of circumstances. This repeated use of a familiar suite of techniques by a consistent group of like-minded people, constitutes a discipline. In this context it is important to consider whether the designer is *running/observing* or, and the distinction is discussed later, *entering into* – the design process. In other words, is the practitioner driving the process or, are they, for want of a better word, “channelling” it? The idea of “channelling” reflects the Greek idea of the *muse*, where the individual is not the origin of creativity but rather a god has inspired and uses the human as the channel for divine inspiration (Siegel, 2009). These questions hinge around the location of the practitioner in relation to the process – are they involved in the process or are they outside the process?

If a practitioner considers they are outside the design process, they are running and controlling it, they tend to have a personal ownership of the design – it is “their” design. This creates a sense of “owning” or having “created” the artefact. For example Jonathon Ives can be said to have created the iPod, Coco Chanel created the Chanel No 5 perfume, and Norman Vincent Peale can be considered to have created “How to Win Friends and Influence People”. An alternative position is that the designer, working within their discipline is intimately engaged in and being influenced by the design process even as they are producing the artefact. The concept of “channelling” described above does pick up on the idea of how a spiritual medium or shaman is able to act as a conduit of larger visions and elemental forces and bring them into reality, while not having the resulting artefact attributed to them as their creation. The value of their role in the process may be readily acknowledged, but the outcome is fundamentally seen as being something beyond what they could have produced “by themselves”. This question of the position of the designer in relation to sustainability is discussed further in Chapter 7 Intervention.

Design as a discipline also carries the idea of a commonly shared body of knowledge and expectations about conduct and practice within a particular group of people who call themselves designers. In some professions, for example architecture, the designers have grouped together to produce a coherent and identifiable set of rules by which adherence to their discipline and proprietary ownership of the professional name is determined. That is, you can’t call yourself an architect without having completed an approved course of study, worked professionally and been accepted by your peers. Conversely being recognised as a fashion designer only requires that the practitioner claim they are a fashion designer and proceeds to be judged by the market – do people buy the clothes; and/or their peers – do other designers get spiteful and critical when your designs are successful!!!!.

Because of the constantly changing nature of the world, designers always have work, even if it does not always pay. People will always want artefacts that demonstrate a high level of fitted-ness to address a particular need. The existence of design disciplines enables designers to continually offer solutions to needs across time frames longer than individual lives. For example architects have been designing houses for thousands of years, religious leaders have been designing ways of thinking and codes of conduct that keep people engaged in religious practices for centuries. It is this characteristic of continuity and adaptation over time to address some fundamental needs that characterises design as a discipline.

The question of sustainability as a discipline raises two fundamental questions: Are there sustainability practitioners, and should these practitioners be organised into some form of professional body that accords them certain privileges and responsibilities similar to other professional groups such as engineers and architects? With respect to the first question, the answer that this thesis seeks to explore is “yes”, there is a group of people with particular design skills that can be clustered around the idea of sustainability. As is discussed above, this is abundantly recognised with universities, major engineering companies, commercial and banking sectors all having departments and sections that specifically reference their function as “sustainability”. An alternative view is that of Buchanan who has pointed out (Buchanan, 1989, p.94) that the designer has no special qualification for advocating a particular position - any more than anyone else, however a case can be made that when engaging in the questions of sustainability the designer has no choice but to take a position in their design practice.

The other question as to whether these people should identify themselves in professional groups, codify their skills base, develop accreditation processes and legislatively protect their name is open to question. It is beyond doubt that these processes are well underway (ISSP, 2013²²; Hopkins, Wright, & Defields, 2012; Yin, 2009 p.2). Whether these groups should become professionally protective and construct themselves as elite is another question. Whether this is a good situation is well summarised in the discussion about professional standards (Alexandra, Cocking, & Miller, 2006). Alexandra et al. review whether professionalization of an industry is occurring for market-based, commercial reasons, where the primary objective is to protect or monopolise some commercial interest; or as in traditional professions, where the focus is on defining identity, maintaining standards, and non-competitive cooperative support. A further distinction can be made between these two when considering the relationship with the client. A market-based professional tends to enter into contractual relationships. A traditional professional has a relationship with a client that is about pursuing the greater good. For example medical doctors are, in theory at least, meant to promote health above personal benefit. A final distinction between the two forms of professionalism is that traditional professions should be able to operate independently of the client’s interests while a purely market-based professional will always act in the client’s interests. For example a lawyer, in theory at least, should provide the best possible legal advice even if it is not in their client’s immediate interests – even if this may not be apparent in practice.

The reality of these two positions is that they are blended across most professions. For a new profession such as sustainability design, the question is: Is it in the best interests of the future of the world for sustainability professionals to form themselves into a market-based profession or to operate as a traditional profession? It is this “*in the interests of the world*” characteristic of sustainability which also must be considered when thinking about sustainability as professional discipline. The risk is that in professionalising sustainability the paradigm shifting nature of sustainability will be lost and “sustainability” will be marginalised²³ into delivery of services such as carbon accounting, green auditing and other techniques. To a certain extent this has already happened because in the 1990s the architects and planners took hold of the concept of “ESD”²⁴, variously interpreted as

²² A review of the ISSP’s web site indicates that it is seeking to develop a professional accreditation similar to that of the Architects Accreditation Council of Australia or Engineers Australia.

²³ As appears to be occurring in many of the “sustainability professionals” websites.

²⁴ Some writers have traced this to as early as the 1970s with Ian McHarg’s “Design with Nature”.

Ecologically Sustainable Design or *Environmentally Sustainable Design* (Mould, 2009; Government of Australia, 2011; Royal Melbourne Institute of Technology, 2006²⁵), and thereby marginalised sustainability into a green wash/filter to be overlaid on traditional planning and architecture.

Based on the above it appears that the most appropriate response mix of sustainability as a discipline is to keep the paradigm shifting nature of sustainability well to the fore of public policy and political debate, while using *sustainability designer* or some similar phrase to distinguish the people who do the types of activities that have a particular design focus and contribute to the paradigm shifting nature of sustainability. It would, however, be extremely unfortunate if such codifying of practice and skills excluded many valuable people who were working to make the world sustainable but did not have that particular suite of skills. There is an inherent risk that the world changing nature of sustainability design may be lost if it is codified into professional association.

From the above discussion about design as a discipline, process and artefact there are some common themes that can be drawn on with a view to using them later to elaborate on the nature of a designer working on sustainability. These are the need for a suite of skills and knowledge, the interplay between intuition and rationality, the repeated appearance of iteration and recursion, self-awareness and the position of the designer in relation to the project, the validity of anthropocentricity, managing multiple dimensions, continuous change and adaptation, and future focus. The next section seeks to pursue the discussion of the relationship between design and sustainability by looking at who else, or what other groups, are thinking about these same connections and how the discussion is being framed by examining:

- The historic thinking about the alignment between *wicked problems* and sustainability
- Current national design policy, particularly through work being undertaken at the Danish Design Centre and the British Design Council
- The work of Bruce Mau and the Institute without Boundaries
- The work of Dr Tony Goldsby-Smith and Second Road Thinking
- A review of similar work by a group of Australians associated with RMIT
- The work of Professor Stuart Walker
- The work of Bill Reid at Regensis

WHO ELSE IS LINKING SUSTAINABILITY AND DESIGN?

Historic roots of Wicked Problems, Sustainability and Design

As discussed in some detail in the next chapter the term “wicked problem” started to be used in social and urban planning by Horst Rittel in the 1960s and 1970s to describe problems associated with urban planning that were considered to be not simple and not easy to resolve. In his formulation of wicked problems Rittel focused on the limitations of the *linear, rationalist* method of problem solving. He gave numerous examples from the US and said:

²⁵ This site begins to understand the comprehensive scope of sustainability but still is largely about green overlays on business as usual

"Few of the modern professionals seem to be immune from the popular attack – whether they be social workers, educators, housers, public health officials, policemen, city planners, highway engineers or physicians. Our restive clients have been telling us that they don't like the educational programs that schoolmen have been offering, the redevelopment projects urban renewal agencies have been proposing, the law-enforcement styles of the police, the administrative behaviour of the welfare agencies, the locations of the highways, and so on. In the courts, the streets, and the political campaigns, we've been hearing ever-louder public protests against the professions' diagnoses of the clients' problems, against professionally designed governmental programs, against professionally certified standards for the public services" (Rittel & Webber, 1973 p.155).

From this overview he identified ten fundamental issues facing an urban planner and formulated these as wicked problems, that is problems that are not easily resolved through the application of systematic and reductionist, analytical methodologies. The idea of wicked problems is explained and discussed in the next chapter where they are reformulated as resulting from convergent narratives. While Rittel's 1973 paper presents the problem, he later went on to define a suite of design-based tools or solutions for resolving wicked problems (Rittel, 1987). Rittel's analysis was selected because it presents a defining point in history, the 1970s, when the early origins of what later became the sustainability discussion²⁶ were emerging and it is this association between the description of wicked problems and the historic identification of design-based approaches as a key to their resolution which is presented as support for the idea that design and sustainability are intimately linked. And this discussion shows no sign of abating. As Batie (2008 p.1181) says *"Addressing wicked problems in a policy context requires both use-driven science that recognises and addresses uncertainties and meaningful engagement of stakeholders in decision making that propels knowledge into action."*

Current design policy – The Danish Design Centre²⁷

The Danish Design Centre (DDC) is a hub that highlights the thinking that is occurring in the Danish design industry. It strongly advocates a *Design Driven Approach* that it says *"...leads to solutions with maximum innovation that fits the successful implementation of products and services"* ²⁸. The current Danish thinking on the role of design is described in considerable detail through forty poster displays; the headline posters have the following headings:

"The world is changing at an accelerating rate, what do we do?

Is this the end of the world?

No it's the beginning of design thinking?

The world is in the midst of a transition to a new age, a shift in paradigm".

Detail on one of the headline posters states:

²⁶ For example the environmental, counter culture, anti-war, anti-racism and poverty reduction movements

²⁷ The material for this section was developed by the author during a visit to the Danish Design Centre in Copenhagen in September 2011

²⁸ The quotes below are taken from the display boards at the DDC

“The social, economic, technological and environmental forces that created the industrial age of the past 250 years will be replaced by the new forces that will create the socio-ecological age of the 21st century. This is not defined by the mass production of goods and products or by individual consumer needs but will have a greater emphasis on community needs and social solutions. Pressing issues in society such as chronic illness, care for the elderly, education and increased mobility will determine the next generation of demands, growth and innovation. Social solutions and social innovation inherently involve many actors and stakeholders. They cannot be developed behind closed corporate doors by experts but have to be carried out in an inclusive and democratic manner in a shared and open creative process. This approach will be crucial for design and innovation. Social design requires a new mindset with regard to approach, methods and behaviour. Consumers will have become manufacturers, as new digital and social technologies drive hierarchies to move from a pyramid to a pancake structure. Open networking across companies will replace closed controlling systems.

...

Design thinking can reinvent the world. Designers have no fear of the blank sheet of paper but relish the challenge inherent in the great uncertainty we are facing. The world requires us to make something from nothing, and that is exactly what design thinking can do. The discipline of design takes people as its starting point of departure, not technology, and that mindset is perfect for the new age. People decide, technology enables. The new age will be dominated by multidisciplinary innovation processes with many stakeholders. They will benefit from the designers’ ability to integrate and facilitate a complex process: another key strategic toll will be the ability to create tangible solutions for intangible challenges” (Danish Design Centre, 2011).

It is apparent that the issues being considered here are identical to those being addressed in sustainability and, from the perspective of the Danish design industry, design thinking is the framework in which to address such issues.

In a parallel exhibition at the Danish Design Museum, Danish innovation and design is tracked, in predominantly furniture design and clothing, through the past six hundred years. The displays move through various European and Asian influences on Danish design and picks up on major artistic movements such as Baroque and Chinoise. One gallery is devoted to each century until the nineteenth century when there is greater detail and more galleries and space given to exploring the design influences. These include a considerable examination of the influence of the Russian constructivists, Art Deco, the 1960s and other movements. The 2000s were identified as being characterised by ecology, recycling and sustainable design where designers sought to green the objects they were designing by examining materials²⁹, and product life-cycles. The latest gallery was devoted to the current decade and indicated that the role of design had firmly moved on from trying to green products into applying design thinking to solve the world’s problems. One of the posters relating to the future of Danish design references the changes that occurred in the 1990s and identifies the future directions as described in the last paragraph as “present day designers”:

“During the 1990s the revolt against Modernist design continues. Designers abolish the boundaries between design, craft and art to create products and works that cannot be easily pigeonholed.

²⁹ Lots of recycled cardboard furniture

The design dogma hitherto adhered to – “form follows function” – is extended with increasing awareness of individual products and their adaptation to current ideals, lifestyles and fashions. Inspiration stems from the mass media, popular culture and consumer society.

But present-day designers also address the great ethical challenges of our society, their work increases our awareness and appreciation of the importance of cultural and social diversity” (Danish Design Centre, 2011).

The Danish design industry appears to see the role of design in addressing sustainability issues even if, somewhat surprisingly, sustainability as a specific word is mentioned comparatively rarely in any of their permanent displays.

Current design policy – United Kingdom Design Council³⁰

The United Kingdom's Design Council (Design Council, 2012) originated after the Second World War to provide design input for British industry in a search for innovative enterprises, improved manufacturing efficiency and a new economic engine for British industry (University of Brighton - Faculty of Arts, 2013; Design Council (a), 2012). For many years the Design Council went through numerous incarnations with varying emphases on different aspects of, mainly, product design. With the 2008 Global Financial Crisis and ensuring economic problems in the Eurozone the British Government developed a whole of government approach to addressing long-term and entrenched structural problems within the economy. As the United Kingdom's Chancellor of the Exchequer said in 2011:

"We want the words: 'Made in Britain', 'Created in Britain', 'Designed in Britain' and 'Invented in Britain' to drive our nation forward – a Britain carried aloft by the march of the makers" (Osborne, 2011).

In response the 2012 Design Council's website described its mission as:

"We bring the transformative power of design to the things that matter. We show how design helps meet tomorrow's challenges and improves everyday life.

We do this through our long term aims to:

- *enable people to use design to transform communities, business and the environment for the better*
- *stimulate innovation in business and public services, improving our built environment and tackling complex social issues*
- *inspire new design thinking, encourage public debate and inform policy to improve everyday life and help meet tomorrow's challenges today”(Design Council (b), 2012).*

³⁰ The material for this section was based on visits by the author to the 2011 and 2012 London Design Festivals.

This is a long way from the product-focused initiatives of the early years of the Design Council and is characterised by applying a design-based approach to thinking differently about national and global problems, rather than just developing new products. The evidence of how quickly this initiative was being taken up by designers was visible at the 2011 and 2012 London Design Festivals. At the 2011 Festival there was a fair smattering of products whose objective was to make the world better; at the 2012 Festival and particularly the Global Design Forum, the emphasis was strongly upon how design can change the world as Sir John Sorrell said during the opening address:

"...we're in a new age: the age of creativity.... If we're going to try and make sure that design and creativity shape a better world, then we need to talk about it" (Sorrell, 2012).

Bruce Mau and the Institute without Boundaries

Bruce Mau is a Canadian designer who has had a significant career in graphic design, identity and branding research and conceptual programming, print design and production, and environmental design. His work has also expanded into architecture, urban design and design theory working with Rem Koolhaas and other major designers and architects. He has also written a number of books on design and change. He is the founder of Bruce Mau Design, the Institute without Boundaries and the Massive Change Network.

The Institute without Boundaries and the Massive Change Network are about using design as an agent of world change. The Institute without Boundaries is a studio-based postgraduate program run by Mau and others. He says *"Our aim is to produce a new breed of designers, one who is, in the words of R Buckminster Fuller, 'a synthesis of artist, inventor, mechanic, objective economist, and evolutionary strategist'"* (Bruce Mau Design, 2010). The Bruce Mau Design Studio is the hub for these activities. This comment is reminiscent of the RMIT's call for "polymaths" described in the section below and points towards a definition or alliance with the idea of a sustainability designer.

The Massive Change Network is a group of designers producing exhibitions, publications and educational programs on the power and possibility of design. Their most recognised publication is *Massive Change*, an articulation and elaboration of much of the *Massive Change* thinking, and this work is used here to illustrate the linkages between design and sustainability.

Mau firmly places himself against the death-and-decline view of history and sees strong evidence for optimism and hope in the capacity for human innovation and invention to solve the world's problems. He traces a conceptual linkage between the mid-twentieth century historian Arnold Toynbee who stated that the twentieth century will be remembered "as an age in which human society dared to think of the welfare of the whole human race as a practical objective". Mau states:

"There is a proposal integrated into Massive Change for a right-angle shift in the axis of discourse defined by right and left, socialism and capitalism. The new axis is defined by advanced and retrograde, forward and

reverse. Plainly, *Massive Change* is a project that embraces the potential of advanced capitalism, advanced socialism, and advanced globalization. In that sense, *Massive Change* is obviously ambitiously positive, and might be misunderstood as utopian at first glance. But it is not futuristic. It is about what is already happening” (Mau, 2004 p.19).

This observation links to R. Buckminster Fuller, and a section of *Massive Change* ambitiously titled “We will reshape our future”, quotes Buckminster Fuller who said:

“There are very few men today who are disciplined to comprehend the totally integrating significance of the 99 per cent invisible activity which is coalescing to reshape our future. There are approximately no warnings being given to society regarding the great changes ahead. There is only the ominous general apprehension that man may be about to annihilate himself. To the few who are disciplined to deal with the invisibly integrating trends it is increasingly readable in the trends that man is about to become almost 100 per cent successful as an occupant of the universe.”

After aligning himself with Buckminster Fuller, Mau then states *“This book is dedicated to all those with the discipline to comprehend the total integrating significance of the 99 per cent invisible activity which is coalescing to our future, this is the beginning”* (Mau, 2004 p.19).

Massive Change then goes on to comprehensively review contributions from a range of experts on different fields of change. Each chapter has a tag line that frames Mau’s and the Institute without Boundaries’ view of the impact of design on changing the world. Each chapter presents design-based creation of new “economies”:

- Urban Economies – we will create urban shelter for the entire world population
- Movement Economics – we will enable sustainable mobility
- Energy Economies – we will bring energy to the entire world
- Information Economies – we will build a global mind
- Image Economies – we will make visible the as yet invisible
- Market Economies – we will seamlessly integrate all supply and demand around the world
- Material Economies – we will build intelligence into materials and liberate form from matter
- Military Economies – will we shift from the service of war to the service of life?
- Manufacturing Economies – we will eliminate the need for raw material and banish all waste
- Living Economies – we will design evolution
- Wealth and Politics – we will eradicate poverty

Some observations can be made about this list – firstly, it is ambitious. While an ambitious vision for world change is important, at the same time it has to be questioned whether this, despite its strong sustainability framing, is actually modernism dressed up to try and address the suite of issues that were created by the self-same modernism. Rittel’s analysis would suggest that such an ambitious approach might create an ongoing supply of wicked problems.

Secondly, the focus is on technology and mechanism, Mau does not seem to go near the fundamental question: What do we do about the human condition and human culture? And it is the human condition that drives the third point, specifically, that Mau's technological eco-utopianism is challenged when considering the question of war. The chapter 'Military Economies – will shift from the service of war to the service of life?' is the only chapter title ended with a question mark, seeming to say that even Mau's optimism and ambition, when faced with the intricacies of the North American military and industrial complex, begin to quaver. It is interesting to contrast Mau's work with the work by Goldsby-Smith below, where the human factor is present but the attention to technology and mechanism is missing.

Thirdly, Mau does not seem to address the question of who directs the designers and generally seems to assume that the people involved in groups such as the Institute without Boundaries will evolve a suitable moral and ethical framework in which to operate. This would appear to be a too easy and facile assumption and links back to the ease of assumptions about rightness within the modernism.

Despite these limitations Mau's book does demonstrate how technology and technological change can produce profound alterations in society. The book was written in 2004 and, in the eight years between then and the time of writing of this thesis, there have already been significant impacts at a global geopolitical level from the introduction of social media discussed in Mau's chapter on Information Economies.

Finally, despite all the issues surrounding the likelihood of the Institute without Boundaries being able to actually deliver on its vision, its ability to address the human dimension and articulate a moral and ethical framework, and/or whether or not Massive Change is just the modernism masquerading as sustainability, the fundamental idea that the role of the designer and design-based approaches in building sustainable systems is strongly supported within Bruce Mau's work and *Massive Change*.

Despite these limitations the Institute without Boundaries and Massive Change do support the idea that there is a requirement for a new class of designers with the capabilities to address global sustainability issues.

Tony Goldsby-Smith and Second Road Thinking

Dr Tony Goldsby Smith originally trained in English Literature and Classics and much of his work has a poetic and literary quality; in fact his professional career has been built on the reintroduction of the art of rhetoric into personal and corporate life in a way that is fresh and invigorating. His work also targets the fundamental questions of wicked problems and is described as being "*without peer in bringing design based thinking to highly complex wicked problems*" (Jones, 2010). Goldsby-Smith talks about rediscovering the power of conversation and defines problems he seeks to address in a conversational manner:

“How many people in your organisation are innovative thinkers who can help with your thorniest strategy problems? How many have a keen understanding of customer needs? How many understand what it takes to assure that employees are engaged at work?”

If the answer is “not many,” welcome to the club. Business leaders around the world have told me that they despair of finding people who can help them solve wicked problems – or even get their heads around them. It’s not that firms don’t have smart people working with them. There are plenty of MBAs and even PhDs in economics, chemistry, or computer science, in the corporate ranks. Intellectual wattage is not lacking. It’s the right intellectual wattage that’s hard to find. They simply don’t have enough people with the right backgrounds” (Goldsby-Smith, 2012).

It is this quest for the “right backgrounds” that leads Goldsby-Smith to enliven the discussion around design and design-based processes with insights from the ancient Greek philosophers, particularly Aristotle. In Chapter six of his 2001 Doctoral thesis Goldsby-Smith dissects Aristotle’s presentation of logic and rhetoric. Goldsby-Smith analyses how Aristotle created a framework of logic that has come to dominate the world:

“The essence of his system was premise, inference and conclusions, and the outcome was certain knowledge through demonstration. The engine he invented was the syllogism which operated with all the precision of a machine on matters of inquiry.”

Inter alia:

“This formidable logic machine laid down the foundations for the progress of logical thought. It has provided the foundations for modern science and modern management. ‘Demonstration’ is the catchcry from modern boardrooms as much as it is from the science laboratory, where I remember writing ‘quid erat demonstrandum’ (q.e.d.) at the end of my formulaic workings. But it has done more than that; it has come to dominate the representations of thought in our twentieth century era. Almost every characterisation of logic or reason is some variation on the scientific method; the person in the street characterises thinking as scientific. Epithets like ‘logical’, ‘rational’ or ‘scientific’ are more than mere classifications of a mode of thought; they are general appellations of praise for good thinking in any mode of thought. We will return to this theme later in the chapter; it is sufficient to say at this point, that Aristotle gave us the logic machine, and he gave with it breathtaking promises around certainty and knowledge. So breathtaking have these promises been, that they have dominated the Western mind for long periods ever since” (Goldsby-Smith, 2001 p.200).

Implicit in this assessment, and linking back to the original quote at the start of this section, is that Goldsby-Smith sees that a misuse or over-confidence in the product of logic has created wicked problems. In response Goldsby-Smith calls for a rediscovery and reinvention of rhetoric, he says:

“Aristotle himself did not offer it as the only road to truth. He offered a second road to truth which has for various reasons largely been ignored: rhetoric and dialectic.

How does, the second road differ from the logic road to truth? Again we can turn to Aristotle for illumination. Whereas logic addresses universal questions of a scientific or philosophical nature, rhetoric and dialectic address questions of action and decision. Science addresses questions where the domain of truth cannot be other than it is. Rhetoric addresses questions, where the domain of truth can be other than it is. The first domain is the domain of the natural science, where natural laws present apparently immutable data and promise certainty of description and understanding. The second domain is the domain of human decision and discussion where all is possibility until the decision is made” (Goldsby Smith, 2011).

Based on this rhetorical framework Goldsby-Smith has developed and engendered a whole movement within organisations and corporations dedicated to reintroducing the idea of conversations, argumentation and visioning the future as a fundamental way of resolving wicked problems:

“The critical difference between the two roads is always best understood by the different domains of question that they address rather than by differences in their methodologies. Rhetoric was the road by which humans designed alternative futures. Analytics was the road by which we diagnosed what already exists. Richard Buchanan of CMU has brilliantly demonstrated in a series of landmark essays ‘design is the modern rhetoric. The significance of all this cannot be over stated. If strategy is in fact a design process it has been using an incomplete toolkit’. Human beings do not analyse their way into the future. In fact, we cannot analyse our way one inch into the future for the simple reason that the future does not exist yet so it is not there to analyse” (Goldsby-Smith, 2001 p.206).

From this assessment Goldsby-Smith has developed a design approach and a business around what he refers to as Second Road Thinking where the rhetorical approach, as alternative to the logical approach, represents a second way of thinking to resolve wicked problems.

The conclusions that can be drawn from this very brief survey of Goldsby-Smith’s work is that he strongly supports the argument that there is a strong linkage between design thinking, solving wicked problems and sustainability. Secondly, in the reverse of the comments about Mau, his work is highly applicable to process however it has not been extended significantly in to the realm of physicality. The next section looks at an Australian example of how the need for sustainability designers was addressed in the context of both physicalities and wicked problems.

RMIT and Wicked Problems

In 2009 the RMIT in Melbourne, Australia, organised a symposium on *Designing Solutions to Wicked Problems*. The Symposium was an invitation-only event that drew together over fifty professionals who were considered to be leaders in their field, to a day and a half workshop. Architects were possibly over-represented in the members of the Symposium however this is probably a reflection of the focus of RMIT and the networks that pivot around

that institution. It may also reflect the fact that architects tend to often encounter wicked problems in their daily work. The purpose of the Symposium was stated in the Preface:

“...What extended role might design research play in amplifying the effectiveness of good solutions?”

Such a discussion has been timely and relevant because trans disciplinary approaches and capabilities are fundamental to mission-directed research and to the development of concrete solutions to the twenty-first century’s wicked problems. This symposium on extra-disciplinary life raises four key issues:

1 It recognises the dual challenges and imperatives of science and research in the twenty-first century: we need excellence and depths in disciplinary fields, but we also need to pursue excellence and breadth in cross-disciplinary capabilities for translational research and for embedding science and technological capability within industrial practice and service delivery.

2 It goes to the nub of the challenge of collaboration. Governments have put a lot of effort into funding programmes to support collaborations, but globally we have not made as much progress as we should in how to make collaboration productive in practice. How do we shape truly cross-disciplinary teams, programmes and institutions that go beyond mere co-investment?

3 It goes to the nub of the challenge of how to bring the humanities and social sciences in from the cold and, in the process, reinvigorate and reenergise the humanities and perceptions of their contribution to major national and social issues.

4 It acknowledges that design and design research practice are at the heart of all this – the design of good solutions and problem-solving, and the architecture of mobilising effort around major challenges and ‘wicked problems’. It is no accident that we have always tended to use architectural and design metaphors; in doing so we have perhaps recognised that this is more than a metaphor and have been half-consciously acknowledging that design and design processes matter. Design applies as much to systems as to objects, so that the term design covers creative input wherever it might be applied usefully” (Cutler, 2009 p.12).

The symposium worked through a range of issues from how to define problems, how different knowledge areas could work together, how should institutions respond which essentially were the same issues being considered, albeit in a different structure, in this thesis. Their findings were grouped into four major responses and used the idea of *transdisciplinary* projects as the framework for solving wicked problems. The relationship between the RMIT Symposium and my work is discussed below where several summary quotations have been selected and then linked to passages in this thesis.

“The natural organiser or impresario of a trans disciplinary project needs to be a polymath or someone with the natural predisposition to search for connections and to scope the wicked problem space in terms of the creative mix of people and perspectives most likely to illuminate it. The description of the challenge, from Vitruvius to

Keynes, from architecture to economics and environmental ecosystems, implies that the challenge is how best to mobilise specialised talent within a framework that is greater than the sum of the parts” (Cutler, 2009 p.85).

In this thesis, sustainability design is equivalent to the RMIT concept of a *transdisciplinary project* and the *polymath* can be associated with the sustainability designer. The “*framework that is greater than the sum of the parts*” could be considered to be implicit in the discussion of Narrative.

“That specialised talent, however, must have the polymath instinct to step outside disciplinary silos if they are to be able to participate within a trans disciplinary framework.

Trans disciplinary research does not displace the role and value of other forms of mixed disciplinary inquiry and undertaking; indeed, it is likely to rely on and enrich such capabilities.

A prerequisite for trans disciplinary research practice is the existence of fields of deep expertise which contribute the ingredients for combinatorial use; the analogy is the role of ingredients in a cooking recipe. Trans disciplinary research and practice are about combinatorial innovation” (Cutler, 2009 p.85).

The concept in this thesis of the need to create a Forum as the working space in which these various disciplines can be engaged and evolve reflects the idea of the “*capacity to step outside disciplinary silos*” and “*contribute the ingredients for combinatorial use*” referred to in the quotation above.

“What distinguishes trans disciplinary undertakings is purposeful activity shaped by the values that frame our judgements about what would constitute a good and acceptable outcome. It is all about change and transformation” (Cutler, 2009 p.85).

The reference here to “*purposeful activity shaped by the values that frame our judgements*” is also analogous to the discussion about Narrative in Chapter 3 and follows the “*rhetorical thinking*” of Goldsby-Smith described below. It also hangs on:

“Finally, the trans disciplinary enterprise will necessarily involve generosity to others, open-mindedness, honesty and listening” (Cutler, 2009 p.85).

“It [the thinking around wicked problems] acknowledges that design and design research practice are at the heart of all this – the design of good solutions and problem-solving, and the architecture of mobilising effort around major challenges and ‘wicked problems’. It is no accident that we have always tended to use architectural and design metaphors; in doing so we have perhaps recognised that this is more than a metaphor and have been half-consciously acknowledging that design and design processes matter. Design applies as much to systems as to objects, so that the term design covers creative input wherever it might be applied usefully” (Cutler, 2009 p.3).

Professor Stuart Walker and Design for Sustainability

Professor Walker has been exploring the links between design and sustainability since the 1990's. As described on the University of Lancaster's web site "*His research focuses on design for sustainability; product aesthetics and meaning; practice-based design research and product design that explores and expresses human values and notions of spirituality (University of Lancaster, 2014).*" The resonance between Professor Walker's work and this thesis is the recognition of the need to move beyond a modernist prescription of reality, and to re-immense design practice into a knowing of the world and a framework of spirituality.

His analysis of the relationship between art, design and fittedness is similar to the ideas discussed earlier in the chapter recognising the multi-polar nature of sustainability and design. In 2000 he said "*Good design is neither art nor barren instrumental device, neither wholly artistic nor wholly utilitarian, but an inseparable union of the two. Therefore, design can be regarded as an activity which, potentially, bridges the two sides of our nature and, when it does so, becomes an holistic endeavor that looks towards our inner self to bring meaning and aesthetic sensitivity to the design of functional objects (Walker, 2000 p.54).*" He then goes onto talk about the idea of "adequateness" of design, where soulful imperfection with the ensuing lower production costs, consideration of equity; and new management models becomes a foundation for sustainable design (Walker & Dorsa, 2001). This resonates with Ricoeur's idea of the embodiment of narratives the everyday-ness of our lives.

Walker explored this connection in 2000 through the creation of experimental product designs shown at the Design Museum London – *Kind of Blue, Experiments in Sustainable Product Design*. A reviewer commented that this work "*Walker contributes to a critique of current approaches to design and manufacture in an increasingly globalized, homogenous, meaningless and unsustainable world. He has argued that current 'industrial design' (or 'dumb' design as it has been termed) is environmentally destructive, socially degrading and has little or no respect for cultural diversity, regional or local skills, or knowledge. Sustainable product design, in contrast, offers products and scales of production that utilize local materials, skills and knowledge whilst maintaining and building a local economy (Sherwin, 2000 p.59).*

He also recognises that the Modernism is at an end and sees sustainability and design as the framing for the successor to modernism. He says "*After five hundred years of the 'Modern' world view and a period characterised by industrialism, capitalism, social change and massive urbanization, we start to enter the Post-Modern; and at the beginning of this period of change the concept of 'sustainable development' enters public consciousness. When we look at it from this perspective, it is hardly surprising that our industrial, economic and political systems are having some difficulty in under-standing what 'sustainability' means and what to do about it (Walker, 2002 p.5).*" Walker notes he is using *Post-Modern* as "*after*" the modern era and not the artistic or architectural exploration of sensation and deconstruction of identity that has been labelled "post-modern". Walker's early work points towards a new consideration of the contribution of design to sustainability which "*encourages diversity and variety, trial and error and experimentation (p.7)*" and "*create possibilities (p.9)*".

In his later work Walker has written a number of articles and books that explore the themes outlined above. In his 2006 book, *Sustainable by Design: Explorations in Theory and Practice* (Walker, 2006). In chapter 2 of this book Walker presents a comprehensive body of theory pointing to, as is supported in this thesis, the need for a re-conception of the relationship between the modernist obsession with industrial production and the generation of excess through the requirement for a rethinking of material culture. Following this in chapter 3 he then traces the arrival of sustainable development as the evolution of a modern myth, and like this thesis draws a strong line from the historic mythologies which have indefinable, unattainable goals; a sense of loss of a perfect state and the need for a redefining and restructuring humans relationship to nature, personal wealth and material production. He also explores a range of techniques and methodologies that have been developed in recent years that attempt to help the development of sustainable development. These are similar to some of the approaches discussed in earlier in this Chapter on design as process.

From this he then steps into a number of chapters where he explores a theoretical framing of a design approach to sustainability where he explores the relationship between the sacred and design, beauty and aesthetics, equity; and ephemerality and endurance. These themes are then applied and interpreted through an examination of physical design objectives.

These themes are continued in his work in *The Spirit of Design* (Walker, 2011) where he pushes deeper into the question of how to have a more constructive expression of the physical and material aspects of how we live so that our lives become more sustainable. In particular he explores how the designer and design processes can provide a central pivot for a new means of production that challenges economically driven cycles of innovation where consumers are seduced into needing more new stuff to drive the means of production. His alternatives are to mesh mass-production with products that reflect strong understanding of sense and place making.

Walker's work approach has strong resonances with the work in this thesis because both seek to develop a theoretical and practical alternative to modernist based production. It also recognises the need for individual responses based in narratives and out of this the development of heuristic design processes within strong ethical and aspirational frameworks. Walker's work however is focused more on the domestic and artefact scale, where as the work in this thesis predominantly focuses at the landscape and geo-political scale. Despite these differences, the underpinning concepts being explored are very similar.

REGENESIS

Regensis is a United States based company that predominantly designs outer city and rural residential developments within a Permaculture, ecological sustainability and regenerative design framework. Its emphasis is on deep thinking about peoples' relationships to the place in which the projects are located and strongly emphasising on understanding the human contexts of a project, integrating this into the project plan and providing training for ongoing support of the community. (Regensis, 2012). The strength of these approaches is that they are able to create human focused developments and ecologically sensitive developments (Mang and Reid, 2012). The limitations are that these activities can be very time consuming and tend to rely on working with people and groups that are already attuned to the underlying philosophy, however it does demonstrate another

example of sustainability design. The challenge for Regenesi and other related groups is the same referred to above in the discussion about Deep Ecology is how to provide a theory of transition that can communicate with those not close to the philosophical framing.

SUMMARY

This chapter has sought to ground the remaining parts of the thesis by exploring the relationships between design and sustainability that have emerged over the past ten years. There are strong similarities between design and sustainability as both of them can be considered as being associated with artefacts, processes and professions. There are practitioners who see sustainability as an extension of design thinking taken into large domain problems and particular consider that design thinking is a crucial component to being able to address wicked problems. This is illustrated from both international and Australian examples. These examples are not meant to be a comprehensive analysis but rather to suggest that design and sustainability are beginning to be mainstreamed in education, professional activities, business and the consulting industry. The linkages between sustainability and design are still being worked through on many different fronts and as such should be seen as preliminary and discursive. Despite these limitations these developments should also be viewed with optimism as an emerging powerful new approach to solving the big, wicked problems of our age.

Having established that there is an adequate basis for asserting that a person can work as a sustainability professional in between design and sustainability, and lots of others are doing it as well, the next chapter begins to explore the theoretical framing for the sustainability designers work and practice. It particularly sets its face against modernist design approaches because these have created so many sustainability design challenges, which are defined as being able to be considered as “wicked problems”. To unpack the question of “what does a sustainability design do when confronted with a wicked problem it explores the relationship between narrative identity and wicked problems. It presents the argument that although wicked problems are the result of convergent narratives, a rediscovery of the role of narrative in our lives and how narrative identity helps us all, and particularly the sustainability designer, to address wicked problems. This discussion of narrative identity bridges over into a discussion of the “tool kit” available to the sustainability designer, the components of which are discussed in the subsequent chapters.

Chapter 3 – Sustainability and Wicked Problems

In the previous chapters we explored the link between sustainability and design and concluded that there is a case for a profession of sustainability designer. There was also an emerging consensus that design-based approaches are probably the best placed to address the wicked problems associated with sustainability. This chapter expands on these links and describes how wicked problems are generated from a modern-classical idea of identity and points to the need to abandon a Cartesian basis for identity and use an alternative understanding of narrative identity as a way of framing the practice of a sustainability designer. Each of the subsequent chapters – Stories, Intervention, Physicality, Leadership and Forum – uses real world examples on which I have worked and ties back to a new understanding of narrative and identity.

WICKED PROBLEMS AND CONVERGENT NARRATIVES

Wicked problems are long-term, systemic and entrenched problems that are intractable and difficult to resolve, and as had been noted above they have been linked to many of the issues that sustainability is seeking to address, for example climate change (Batie, 2008), water management (Hearnshaw, Thompkins, & Cullen, 2011), coastal management (Marcucci, Brinkley, & Jordan, 2010), mental health (Hannigan & Coffee, 2011), Australian Aboriginal development (Howitt, 2012). There are more mild positions such as a *crisis* that tends to be a chaotic, relatively short-term event, rather than a chronic or long term condition. Another interpretation is that a wicked problem is an *inflection point* which implies a significant change at a particular point in time after a long time of gestation. Combining these, somewhat tongue-in-cheek, when a *chronic condition* reaches an *inflection point* manifesting in an *acute situation*, this represents a wicked problem. In this thesis the term *wicked problem* is used because it has currency and there is a considerable amount of discussion around its identity and how to respond to it. Most importantly, it provides a useful entry to the discussion of whether a designer should use an alternative direction to address wicked problems rather than those commonly generated from the modernist or post-modern approach.

Characteristics of Wicked Problems

There have been numerous definitions of wicked problems including a comprehensive overview by Batie (2008). Another construct is by Ranulph Glanville who identifies wicked problems as moving around, being undecidable, being based in the capacity for humans to make choices, linking action and understanding, having no final definite solution and about work in progress (Glanville, 2009). A relatively easily understood overview is provided below summarising an overview of the characteristics of wicked problems from an Australian Government policy document:

“Wicked problems are difficult to clearly define. Often, each version of the policy problem has an element of truth – no one version is complete or verifiably right or wrong.

Wicked problems have many interdependencies and are often multi-causal. There are also often internally conflicting goals or objectives within the broader wicked problem.

Attempts to address wicked problems often led to unforeseen consequences. Because wicked policy problems are multi-causal with many interconnections to other issues, it is often the case that measures introduced to address the problem led to unforeseen consequences elsewhere. Some of these consequences may well be deleterious.

Wicked problems are often not stable. Frequently, a wicked problem and the constraints or evidence involved in understanding the problem (e.g. legislation, scientific evidence, resources, political alliances) are evolving at the same time that policy makers are trying to address the policy problem.

Wicked problems usually have no clear solution. Since there is no definitive, stable problem there is often no definitive solution to wicked problems. Solutions to wicked problems are not verifiably right or wrong but rather better or worse or good enough. In such cases, it may be more useful to consider how such problems can be managed best.

Wicked problems are socially complex. It is a key conclusion of the literature around wicked problems that the social complexity of wicked problems, rather than their technical complexity, overwhelms most current problem-solving and project management approaches.

Wicked problems hardly ever sit conveniently within the responsibility of any one organisation. They require action at every level — from the international to the local — as well as action by the private and community sectors and individuals.

Wicked problems involve changing behaviour. The solutions to many wicked problems involve changing the behaviour and/or gaining the commitment of individual citizens. The range of traditional levers used are often part of the solution but these may not be sufficient. More innovative, personalised approaches are likely to be necessary to motivate individuals to actively cooperate in achieving sustained behavioural change.” (Australian Government, 2007)³¹.

Origins of Wicked Problems, modernism and Narrative

When Horst Rittel first formulated idea of wicked problems in the 1960s he made a number of key observations that are relevant to this thesis, as shown by the bold emphasis:

*“During the industrial age, the idea of planning, in common with the idea of professionalism, was dominated by the pervasive idea of efficiency. Drawn from **18th century physics, classical economics and the principle of least-means**, efficiency was seen as a condition in which a specified task could be performed with low inputs of*

³¹ Also referenced in K. Henry Secretary of Australian Department of Treasury 2001 - 2011, 'Managing Prosperity' - Address to the Economic and Social Outlook Conference, Melbourne, 2 November 2006

resources. That has been a powerful idea. It has long been the guiding concept of civil engineering, the scientific management movement, much of contemporary operations research; and it still pervades modern government and industry. When attached to the idea of planning, it became dominating there too. Planning was then seen as a **process of designing problem-solutions** that might be installed and operated cheaply.

Many now have an image of how an idealized planning system would function. It is being seen as an on-going, cybernetic process of governance, incorporating systematic procedures for continuously searching out goals; identifying problems; forecasting uncontrollable contextual changes..... That set of steps is familiar to all of us, for it comprises what is by now the **modern-classical model of planning**.

The formulation of a wicked problem is the problem! The process of formulating the problem and of conceiving a solution (or re-solution) are identical, since every **specification of the problem is a specification of the direction in which a treatment is considered**.

This analysis indicates how the lack of awareness of multiple narratives brings about the creation of wicked problems.

The classical systems-approach of the military and the space programs is based on the assumption that a planning project can be organized into distinct phases. Every textbook of systems engineering starts with an enumeration of these phases: 'understand the problems or the mission', 'gather information', 'analyse information', 'synthesize information and wait for the creative leap', 'work out solution', or the like. **For wicked problems, however, this type of scheme does not work. One cannot understand the problem without knowing about its context; one cannot meaningfully search for information without the orientation of a solution concept; one cannot first understand, then solve.** The systems-approach 'of the first generation' is inadequate for dealing with wicked-problems. Approaches of the 'second generation' should be based on a **model of planning as an argumentative process in the course of which an image of the problem and of the solution emerges gradually among the participants, as a product of incessant judgment, subjected to critical argument.** (Rittel & Webber, 1973 p.158-161).

From this analysis a number of issues need to be considered in this thesis including the role of the modern-classical³² approach in creating wicked problems, the understanding of context and narrative, the role of argumentative³³ processes, the role of participants in the process, and seeing solutions as being emergent rather than being defined (Rith & Dubberly, 2007). Others that have discussed this also link wicked problems to a failure of relationship between science and society (Farrell, 2011; Wesselink & Hoppe, 2011). This concept of the breakdown between reductionist science and society will crop up again and again through out the following chapters.

³² Or Cartesian

³³ In this article "argumentative processes " are not the same as conflict processes, rather they could more accurately be represented by terms such as dialogue

Although Rittel has been cited here he was not alone in his analysis and assessments. He worked in parallel with a number of the early pioneers of human-and nature-centred design including Christopher Alexander³⁴, Jane Jacobs³⁵ and Jan Ghel all of whom approached design through observation and inquiry rather than direct application of high-level theory. The assessment of the necessity of these approaches to solve wicked problems is increasingly being reinforced.

Modernism and the modern-classical approach

To understand the origins of *modernism*, we have to turn to European thought at the start of the twentieth century. Going back in time, the Reformation in fifteenth and sixteenth century Europe had challenged and changed the power of the Church and the royalty. Descartes made the benchmark statement of the supremacy of the individual when he used “*I think therefore I am*” as the starting point of a unifying philosophical thinking and this can be considered to be the defining statement of the Modern era. Descartes lent his name to this way of seeing the world – the *Cartesian* world-view. The Enlightenment in the seventeenth century had presented reason as opposed to God, the Church or aristocratic privilege, as the source of authority and with this the locus of authority shifted from something that was external to the individual to something that was within the individual and the individual as a self-aware, autonomous mind became the measure and originator of all things. This emphasis on the Cartesian idea of identity unfolded in many different ways. Immanuel Kant, in his essay “*What is Enlightenment?*”, described it as the freedom to use one’s own intelligence (Kant, 1786)³⁶. In the physical sciences Newton’s mathematics were able to describe the universe as operating in its own mechanical order and removed the need for God to keep the celestial bodies in motion in the heavens. The positive aspects of the Enlightenment were that these ideas worked through into an acceptance and advocacy of religious tolerance, democracy, free economic markets, and the scientific method as important bases of society and culture. The negative aspects unfolded into the twentieth century and are implicit in the creation of wicked problems.

Even though modernism was the dominant paradigm for the twentieth century in all areas of technology, culture and society, that century can also be viewed as both the apogee and death of modernism. Change occurred on many different fronts. While linking the technological means of production with mechanical design metaphors gave rise to Modernist architecture of the Bauhaus, DeStijl and the Internationalist movement, it also produced the mechanised war machine of the Third Reich. The communist revolution and the freedom that it gave to workers also produced Stalinist Russia. In the physical sciences the familiar certainties of a predictable Newtonian universe also broke down in the face of Albert Einstein’s Theory of Relativity and Heisenberg and Dirac’s Quantum Mechanics. Philosophers such as Nietzsche theorised that the strength of will was more important than objects or facts. Despite these upheavals, following the Second World War modernism was able to produce abundant physical wealth for industrial Western democracies and, to a lesser extent some of the developing economics.

But at its core, as Rittel described, this contained the origins of emerging wicked problems – “The formulation of the problem is the problem”. As Lebbeus Wood, an architect with a strong engagement with post-conflict reconstruction, says:

³⁴ “A Pattern Language” 1978

³⁵ “The life and death of Great American Cities”, 1961

³⁶ Kant’s response to a competition to answer the question “What is Enlightenment?” in Königsberg in Prussia, 30 September 1784.

"The early twentieth-century modernist architects, who were aligned with the ideologies of industrialisation, faced the task of rebuilding an intellectually bankrupt and war devastated culture following the war that presumably ended all wars. These avant-gardists embarked on a war of their own, employing the violence of what would later be called 'urban renewal', against the presumed chaos of old cities (actually, against their non-conformance to patterns of industrialization), proposing to erase the most conceptually corrupt parts in order to build more humane cities. Their war was successful, especially after WWII, when some cities were already partially cleared by massive aerial bombardment, and others, though not bombed, begged for grand plans.

But their goal of 'better' was never reached. Modernist architecture, just as the positivism that formed its foundations, was as single layered and hierarchical as the damaged cultural tissue it claimed to erase....

The erasure of old cities in order to build a better and more humane world is by now a widely discredited concept, yet it lives on wherever a totalizing system of space and of thinking is imposed in the name of a common cause. This applies especially to the crisis of post war reformations, when cities or parts of them are conceived as a tabula rasa on which to inscribe new plans. Surely it is possible, even necessary, that after a century of the failure of grand designs new principles for the reconstruction of damaged buildings and cities can be devised" (Woods, 1997 p.15).

While gaining my first degree in engineering, and the second in environmental science, no matter what I was doing in either physical engineering or environmental policy I felt the tension that Woods talked about. All I was doing was metaphorically "bolting things onto the end of pipes" and trying to clean up a mess once it had been created. I also realised that my training was strongly embedded in a modernist framework and often I was complicit in the creation of wicked problems; there had to be another way to do things. The answer to this question started with the realisation that when the Enlightenment philosophers placed human reason and the capacity of humans to self reference, "I think therefore I am", at the centre of the universe they disconnected humans from the world in which they live and previous certainties of religious belief or cultural authority. This freedom, while it allowed the creation of great good, also authored the great evils of the twentieth century³⁷. If the assumption that self-aware individual thought is the measure of all things was the underpinnings of modernism and has exacerbated wicked problems, then we have to work on a new idea of human identity and see how this may develop for a sustainability designer. I realised that this change cannot be achieved through a retreat back to a by-gone era I tried to approximate through a hippy self-sufficient lifestyle that was reminiscent of the Romantic era. Something new had to be found. This examination led to one of the fundamental links in the logic of this thesis – *If the question of identity in the modernist paradigm is one of the causes of wicked problems, then re-defining identity informs a new way of working with wicked problems.* Here the work of the French philosopher

³⁷ One response, that hopefully will be seen historically as a minor cul-de-sac that kept our culture entertained for fifty years, was the rise of Post-modernism. This is mentioned here because it has considerable currency rather than it has significant merit in the future of sustainable development. Post-modernism can be described as an abandonment of the modernism in the face of the horrors of World War 2 and the devastating impact of machine thinking on the world, and an embracing of the multiple descriptions of the one event and the observation of the sensory, and an engagement with the juxtaposition of influences and causes on the individual. Post-modernism is most observable in the Arts and Architecture however less observable in other areas of life probably because, as it is about the observation and engagement with sensory reactions, it does not have a well-developed theory of engagement with the means of production. This statement however may not be true as, for example, many of the outputs of the customising and personalising of web-based services, both physical and cultural, can be seen as reflecting a Post-Modern sensibility. In a technological sense web-based services can be seen as a Post-Modern overlay on top of a Modernist production machine.

Paul Ricoeur is of immense value. The next chapter provides a brief overview of his life and work and links particular parts of his work to the subsequent chapters of this thesis.

Chapter 4 – Narrative Identity and Sustainability

Design

In the previous chapters we built the linkages between sustainability and wicked problems, and the historic roots of wicked problems in the modernist view of the world. We also examined how the modernist view of the world is based in a particular construction of the individual – an independent, self-aware, mind removed from space and time. It was suggested that an alternative view of identity is needed to build the framing for addressing wicked problems and, particularly, the praxis of the sustainability designer. And it is to the idea of narrative identity and the work of Paul Ricoeur that we now turn for this.

Narrative, an alternative understanding of Identity – Paul Ricoeur

Ricoeur³⁸ lived between 1913 and 2005. His life bridged many different areas of cultural, social and political change. This sense of living-in-transition may have given him a predilection to deeply explore identity. He was unusual for a philosopher in Catholic France, being born into a Protestant family and continuing as a practising Christian all his life. His work asked two fundamental questions: “Who am I?” and “How should I live?”. He also was a philosopher at the time when Marxism and Existentialism were the dominant paradigms in French universities but did not subscribe to either of these and is rather considered as one of the hermeneutic phenomenologists along with Martin Heidegger and Hans-Georg Gadamer (van Manen, 2011).

As a child Ricoeur was seen as being a strong student and ahead of his years in intellectual understanding. The devotion of his Protestant family led him to have a high regard for study of the Bible and a respect for reflection and intellectual thought. Later in life he was actively associated with the Taizé Christian community, an interdenominational brotherhood based in the village of Taizé, near Cluny in the south east of France. This community started just before the Second World War and is committed to reconciliation and welcome in the face of many continental crises – WW2, the rise of 1960s counterculture that challenged the European traditional hierarchy, and globalisation. Ricoeur’s philosophical reflections provided underpinnings to the ethos of Taizé (Cheung, 2011).

During the 1930s Ricoeur began his university education at the University of Rennes and then studied philosophy at the Sorbonne. In 1939, at the start of the Second World War, he was conscripted into the French Army. In 1940 he was captured when France was invaded by Germany and remained as a prisoner of war for the rest of the War. While a prisoner of war he met a number of other intellectuals being held in the same camp and was able to further his education through interaction with these intellectuals and reading broadly including the work of Karl Jaspers and Edmund Husserl. He was strongly influenced by the work of Husserl.

³⁸ Information about Ricoeur’s life and work in this section has been drawn from a number of references including (Atkins, 2003; Dauenhauer, 2011; Reagan, 2013)

Between 1948 and 1956 Ricoeur taught at the University of Strasbourg where he completed his doctorate on the philosophy of will³⁹. Ricoeur took the position that the voluntary and involuntary are complementary aspects of human reality. This was in opposition to the existentialist concept that there is a difference between consciousness and the experience of the world. Ricoeur did not consider that the voluntary and involuntary necessarily sit easily together but rather that both of them, taken together, make up my individual identity and individual freedom. It is these themes of identity, freedom and human existence to which he continued to return throughout his career. His work draws some similarities with MacIntyre's *After Virtue* (1984), in that both recognise that life is a continuous narrative and not just a series of unconnected events; but also draws significant differences (Ricoeur 1992, p 158) particularly that MacIntyre makes no distinction between what is occurring in the real world and what is occurring in fiction. Stronger resonances can be found in Charles Taylor's works *A Secular Age* (2007) and *Sources of Self: the Making of Modern Identity* (1998).

In 1956, Ricoeur became Chair of General Philosophy at the Sorbonne University and explored and wrote extensively on evil and human nature and a critique of psychoanalysis⁴⁰. Jacques Derrida, who has since come to prominence for his philosophical work on deconstruction, worked with and was an assistant to Ricoeur during that time. In 1967 he joined the new University of Paris at Nanterre seeking freedom from the conservatism of the Sorbonne; however this time was marred by the Paris student riots when the students derided him as a tool of the French government.

Following this, between 1970 and 1985, he moved to the United States and taught at several universities. During this time he gave the Gifford Lectures that culminated in the publishing of *Oneself as Another* in 1992 from which this thesis draws its inspiration for a different conception of identity and examines how this impacts on sustainability design. It is ironic and humbling that I have only had to draw on a few parts of *Oneself as Another* to provide a framework for this thesis while Ricoeur's writing was prolific across many subjects.

Ricoeur's writing also bridged a number of times of transition in global thinking. The technological optimism of modernism was dealt a body blow by the First and Second World Wars. Post WW2 the structural failures and excessive violence of Stalinist Russia and Mao's China showed the Marxist analysis of history was seriously flawed. Although Post-modernism emerged as a contender to fill the vacuum created by the decline of modernism it had generally been tried and found to be wanting, particularly in the context of sustainability.

Ricoeur's Protestant heritage within a Catholic culture connected him to both the Enlightenment and pre-Enlightenment religious sensibilities. At the same time, being a philosopher in France placed him alongside the great Existentialists in an environment that was at the forefront of world philosophical thought in the second half of the twentieth century. This straddling of many different times and themes make Ricoeur's work unique.

³⁹ Other books by Ricoeur reflecting his commitment to exploration of identity in time, space and history include: *Memory, History, Forgetting*, trans. Kathleen Blamey and David Pellauer, Chicago: University of Chicago Press, 2004 (2000), which can be seen as a parallel work to *Oneself as Another* *Freedom and Nature: The Voluntary and the Involuntary* trans. Erazim Kohak, Evanston: Northwestern University Press, 1966 (1950).

History and Truth trans. Charles A. Kelbley, Evanston: Northwestern University Press, 1965 (1955).

⁴⁰ *Fallible Man*, rev. trans. Charles A. Kelbley, New York: Fordham University Press, 1986 (1960).
The Symbolism of Evil trans. Emerson Buchanan, New York: Harper and Row, 1967 (1960).

In this thesis I am taking a thread of ideas that emerge out of Ricoeur's work on narrative identity. Over the next few sections I unpack some parts of his thinking that highlight the issues considered in the case studies which make up the examination of the praxis of a sustainability designer. Before that we will do a brief overview of the contemporary work linking design, sustainability and narrative identity and, specifically, Ricoeur's work.

With this overview in mind we will now step through the major points of Ricoeur's discussion of narrative identity and develop linkage points with the practice of a sustainability designer.

Narrative Identity – Selfhood and Sameness

As was commented earlier Ricoeur examines two questions, "Who am I?" and "How should I live?", which places him in a different position to many of his contemporaries. As Atkins comments:

"The first question has been neglected by much of contemporary analytical and post-modern philosophy. Consequently, those philosophies lack the means to address the second question. Postmodernism self-consciously rejects traditional processes of identity formation, depicting them as familial and political power relations premised upon dubious metaphysical assumptions about gender, race and mind. At the same time, contemporary philosophy of mind reduces questions of "who?" to questions of "what?", and in doing so, closes down considerations of self while rendering the moral question one of mere instrumentality or utility. At its core Ricoeur's thinking seeks to lead humans to understand themselves in the context of their abilities and weakness in the day-to-day events that make up their existence in the real world and in space and time. He rejects any Cartesian style of claim that humans can be self-aware or self-knowing based purely on their own efforts and independent of their real world context" (Atkins, 2003 Section 4).

In *Oneself as Another* Ricoeur answers these questions by reiterating a duality of identity that he explored in other works. He uses two Latin words – *idem*, which implies *sameness* or *self-likeness*, and *ipse*, which implies *selfhood* or *identity in space and time*. As an illustration – while it is true that all the cells in my body have completely changed over the past years I am still a human being, the same as all other human beings (*idem* identity) in a world that shares this same physicality⁴¹. At the same time I am also essentially and uniquely "me" who can be recognised by a series of characteristics and behaviours that exist at a particular place in space and time, and while these characteristics have changed over time and these changes can be recognised, I can still be considered to be uniquely "me" (*ipse* identity). As Ricoeur says:

*"The problem of personal identity constitutes, in my opinion, a privileged place of confrontation between the two major uses of the concept of identity, which I have evoked many times without ever actually thematizing them. Let me recall the terms of the confrontation: on one side, identity as sameness (Latin *idem*) German *Gleichheit*. French *mnnai*); on the other identity as selfhood (Latin *ipse*) German *Selbstheit* French *ipseite*. Selfhood, I have repeatedly affirmed, is not sameness. Because the major distinction between them is not recognised – as the second section verify – the solutions offered to the problem of personal identity which do not consider the*

⁴¹ In its extreme this idea of sameness can be extended into linkages to the rest of the universe, similar to Carl Sagan's comment "The nitrogen in our DNA, the calcium in our teeth, the iron in our blood, the carbon in our apple pies were made in the interiors of collapsing stars. We are made of starstuff" (Sagan, 1973).

narrative dimension fail. If this difference is so essential, one might ask, why was it not treated in a thematic manner before since its ghost has continually haunted the preceding analyses? The reason is that it is raised to the level of a problem only after the temporal implications have themselves moved to the forefront. Indeed, it is with the question of permanence in time that the confrontation between our two versions of identity becomes a genuine problem for the first time” (Ricoeur, 1992 p.116).

While Ricoeur is seen as a phenomenologist and his thinking has some links to Mackintosh’s Narrative Unity Ricoeur’s analysis of Narrative Identity is significantly different to Mackintosh’s. This difference is discussed at length by Ricoeur in “Oneself as Another”, where he identifies that although Mackintosh sees the narrative unity of life – something that has a start and a finish and is not just isolated events in time, narrative identity asserts that the identity of the self is built up of interrelations between context and the self in space and time.

The implication of *narrative understanding of identity* creates a personal and profound shift for the sustainability designer. As designers living in an after-modern⁴² world, we generally have been brought up to believe that we can sit independent from the situation on which we are working, however the narrative understanding of identity requires that we acknowledge that we are both intimately linked into the circumstance in which we find ourselves and have a sameness that is shared, and also to recognise that there is some part of this process in which I retain a “me” that is uniquely “me”. This is compounded by the fact that interplay between this uniqueness and shared-ness is not a static situation but ongoing and ever-changing. This understanding immediately calls on the sustainability designer to understand their own story and what has built their identity. As a test case I have written part of my own story in the chapter entitled *Personal*. In writing this chapter I was continually confronted by the same two questions posed earlier, “Who am I?” and “How shall I live?” but at the same time I came out of the process with a better understanding of who I was and how I should live, in short that I am a designer. This concept of understanding who-I-am, in the context of my story, should be one of the prerequisites for other people who work like me. At the same time it also highlighted the issue of *choice* in defining what I included in that story. This was empowering because it created the idea that we do control our destiny; while at the same time it was also daunting because it highlighted that stuff happens in life over which we have no control and has to be responded to within informed ethical framework.

Understanding my own and others’ stories is therefore primary for a sustainability designer, so we turn to the second theme drawn from Ricoeur’s work, specifically understanding narratives and how these combine to create wicked problems.

Narrative Identity – common stories

In the *Sixth Study of Oneself and Another – The Self and Narrative Identity* (Ricoeur, 1992 p.140-180), Ricoeur explores the many dimensions of narrative and identity and begins to move from the question of individual identity to the relationships between people and combined identities in spaces and time. Dauenhauser summarises this part of Ricoeur’s work by saying:

⁴² In this case “after” modern is used implying something that comes after being a *modernist*, or a *post-modernist* within specific philosophical, artistic or architectural movements

"First, narratives draw together disparate and somehow discordant elements into the concordant unity of a plot that has a temporal span. Second, the elements and episodes that a narrative unites involve contingencies. All of them could have been different or even nonexistent. Nonetheless, as emplotted, these elements take on the guise of necessity or at least of likelihood because they are followable. Taken by itself, an element of a story is of interest only if it is surprising. But when it is integrated into a plot it appears as a quasi-necessity. Third, narratives are made up not only of actions and events but also of characters or personages. Plots relate the mutual development of a story and a character or set of characters. Every character in a story of any complexity both acts and is acted upon. Finally, a narrative's characters only rise to the status of persons—fictional or real—who can initiate action when one evaluates their doings and sufferings and imputes them to the actors and victims as praiseworthy or otherwise. One evaluates how the person responds when confronted by another living being who is in some need that the person can address" (Dauenhauer, 2011; Ricoeur, 1992 p.147-148).

The important concept for this thesis is that personal narratives do converge and combine to create multiple corporate narratives, and it is important that the sustainability designer has the capacity to see these multiple narratives. Of importance also is the relationship between these multiple narratives and the creation of wicked problems. One particular quote is relevant, in Ricoeur's discussion about the relationship between identity and space and time and what constitutes the real, physical world. He says *"The Earth here is something different, something more, than a planet: it is the mythical name of our corporeal anchoring in the world"* (Ricoeur, 1992 p.150). The conflict he identifies is when our action in the world outstrips our capacity to integrate or be part of this anchoring. In a highly obtuse statement he says:

"What the puzzling cases render radically contingent is this corporeal and terrestrial condition which the hermeneutics of existence, underlying the notion of acting and suffering, takes to be insurmountable. What performs this inversion of meaning by which the existential invariant becomes a variable in a new imaginary montage? This is done by technology; better, beyond available technology, this is the realm of conceivable technology – in short, the technological dream. In this dream, the brain is taken to be the substitutable equivalent of the person. The brain is the point of application of advanced technology.... This technological dream illustrated by cerebral manipulations, is of a piece with the impersonal treatment of identity on the conceptual level" (Ricoeur, 1992 p.150).

A number of things can be drawn from this statement: firstly, Ricoeur sees that there can be a convergence of multiple narratives around the world and these actions can produce suffering. Secondly, the imbalance created where the brain is substituted for the person drives the narrative of the technological dream, and thirdly, this impersonalisation results in a loss of meaning, which can be extended to how humans are present in and relate to the Earth, and it can be inferred results in suffering. I take this to be a strong theoretical proposition for the reason for wicked problems. At a case study level these ideas are explored in the chapter Stories where I look at a project on which I worked in Vietnam where a combined Vietnamese-American organisation was set up to help victims of Agent Orange from the Vietnam-America War of the 1960s and 1970s. The Stories chapter applies a practice exploration of the multiple narratives that were unfolding in that war, with its particular technological bent, and how these created the wicked problem of Agent Orange victims.

Having established from Ricoeur's work the combined nature of narrative in the real world the next section explores the idea of the sustainability designer or, as Ricoeur says, the agent, and their intervention into narratives.

Narrative Identity and Intervention

Having established the nature of narrative identity, the convergence of narratives⁴³ in the creation of wicked problems, the question now must be considered what gives the right to and how should a sustainability designer intervene in these narratives and what should guide their intervention. In this analysis the term "agent" is taken as being equivalent to the sustainability designer in this thesis. Kaufmann analyses Ricoeur's thinking and identifies two dimensions of human action, the internal dimension of motives and the external dimension of causes. These however are not separate domains:

"We can find actions that can be explained from an almost purely causal model in cases where a kind of external force makes the agent react (for example in cases of "unconscious motives") and we can find cases where there is a pure rational motivation, for example in cases of intellectual games like chess. However, for Ricoeur human actions mostly lie between these two models. Motives are also motions and justifications, especially when we give an account of a past action. Causes, in order to be taken into consideration as an explanation for a human action must be considered as motives. Ricoeur concludes that "a human being is as it is precisely because it belongs both to the domain of causation and motivation..." (Kaufmann, 2010 p.39)⁴⁴.

This intertwining of actions must draw the attention of the sustainability practitioner to consider why to intervene in a circumstance. An addition to this, the practitioner must also be aware that, for Ricoeur, the forever interacting and changing identity requires that, unlike the self-referencing Modernist self, the reasons for action cannot necessarily be empirically verified but rather must be accepted with an assurance or belief of its truth. Ricoeur refers to this as an "attestation".

"Attestation presents itself first, in fact, as a kind of belief. But it is not a doxic belief, in the sense in which doxa (belief) has less standing than episteme (science, or better, knowledge). Whereas doxic belief is implied in the grammar of "I believe-that," attestation belongs to the grammar of "I believe-in." It thus links up with testimony, as the etymology reminds us, inasmuch as it is in the speech of the one giving testimony that one believes. One can call upon no epistemic instance any greater than that of the belief-or, if one prefers, the credence-that belongs to the triple dialectic of reflection and analysis, of selfhood and sameness, and of self and other" (Ricoeur, 1992 p.21).

The implication of this for the designer is that there is interplay between certainty (I have the facts), beliefs and assumptions, and adherence to a value framework. All of this must guide the question of intervention.

⁴³ Particularly the implications of this convergence when technology is involved

⁴⁴ Referencing Ricoeur comments about the relationship between causes and motives from Ricoeur - "Explanation and Understanding." In *From Text to Action*. Translated by Kathleen Blamey and John B. Thompson. Evanston, IL: Northwestern University Press, 1991; and

Dauenhauer, when reflecting on Ricoeur's work, says accordingly, the crucial questions about action are: "*What must be the nature of the world... if human beings are able to introduce changes into it? [And] what must be the nature of action... if it is to be read in terms of change in the world?*" (Dauenhauer, 2011 section 3.2). The question of the designer's role in the world is explored in Chapter 7, Intervention, through reflections on my own role in a development project in Vietnam, why I was there, the nature and value of my intervention.

Up to this point we have looked at a number of facets that emerge from Ricoeur's question of "Who am I?". We now move from the question of how to understand narratives and why to intervene, to the question of how to make the intervention valuable and produce good. In this the discussion in the case study chapters moves more into the area of direct praxis particularly looking at the nature of leadership, how to create physicalities, and how to create a working space or forum. To guide this investigation we will look at how Ricoeur's second question "How should I live?" is constructed and apply it to the work of a sustainability designer.

Producing the "Good" Life

In considering the question of "How should I live?" Ricoeur takes up a theme posed by Aristotle (Aristotle, 2009), and repeatedly worked over by philosophers (Cicero, 2005; West, 2006) over the centuries since his time, specifically what constitutes a "good" life and how is this life to be lived (McCabe, 2005 p.172). In this case "the good life" is not a life of luxury and ease but rather a question of morality, ethics and right living. As a recapitulation before moving on, to help our thinking, Dauenhauer presents a summary of Ricoeur's analysis of narrative identity, as it has been developed to this point:

"Because my personal identity is a narrative identity, I can make sense of myself only in and through my involvement with others.

In my dealings with others, I do not simply enact a role or function that has been assigned to me. I can change myself through my own efforts and can reasonably encourage others to change as well.

Nonetheless, because I am bodily and hence have inherited both biological and psychological constraints, I cannot change everything about myself. And because others are similarly constrained, I cannot sensibly call for comprehensive changes in them.

Though I can be evaluated in a number of ways, e.g., physical dexterity, verbal fluency, technical skill, the ethical evaluation in the light of my responsiveness to others is, on the whole, the most important evaluation" (Dauenhauer, 2011 section 3.4).

We now move on to how Ricoeur considers narrative identity affects the relationship between the practitioner and their guiding ideals, and how their practice is mediated by the life choices made by the practitioner. He describes this as:

"We shall term "life plans" those vast practical units that make up professional life, family life, leisure time, and so forth. These life plans take shape – a shape that is mobile and, moreover, changeable – thanks to the back-and-forth movement between more or less distant ideals, which must now be specified, and the weighing of advantages and disadvantages of the choice of a particular life plan and the level of practices."

Ricoeur refers to life plans as...

"...constituting the immediate zone of exchange between the undetermined character of guiding ideals and the determinate nature of practices" (Ricoeur, 1992p.157-158).

For the designer working on sustainability, this translates to a consistency between ideals and praxis and challenges the sometimes hypocritical occupation of the moral high ground by some environmentalists. The integrity of a sustainability designer's work must be questioned if they do not appear to have at least a reasonable alignment between their lifestyle, life plans and their practice⁴⁵. The first issue considered in the discussion about the relationship between the designer and their praxis is leadership, particularly what form of leadership is most appropriate for the projects on which a sustainability designer will work.

Leadership

As is discussed in Chapter 8, leadership is often constructed in terms of a spectrum between heroic leadership (the leader out the front showing the way) and the consensus leader (facilitating change from within with the resources available); however looking at leadership within a narrative framework brings a new level of refinement to this understanding particularly by recognising and reinserting the leader's own experience and narrative into the consideration of style of leadership. Sparrowe uses Ricoeur's work to examine how to create *authentic*⁴⁶ leadership, whatever leadership style (heroic or consensus) they are using (Sparrowe, 2005). Three main factors are identified: firstly, using autobiographical narratives to understand the leader's place in the change process, to articulate when transformational or trigger events are occurring and to ensure a consistency between the leader and their actions; secondly, recognising that there are multiple narratives and plot lines which the leader can understand and be inspired and/or confronted by, and these narratives into their work and life story; and thirdly, using narratives to engage people with whom the leader is working to positively construct a new narrative for their project (Fisher & Freudenburg, 2001 p.436). In addition the duality in narrative identity of selfhood and sameness, and particularly sameness, links our identity and that of others to mutual esteem – as Ricoeur (1992 p.193) observed, *"I cannot myself have self-esteem unless I esteem others as myself"*, which tends to preclude manipulative and coercive behaviour in a leader. The implications of this for a sustainability designer are profound. As is noted earlier if a designer is operating in a modernist framework they will tend to be blind to both their own personal narrative and how this narrative converges with others. Leadership with this level of disconnection from other humans and the world will inevitably support narratives that are different, independent and often lacking authenticity. When these decontextualised, individual narratives converge wicked problems can only be exacerbated.

⁴⁵ How many sustainability champions actually know how to grow a garden!?!
⁴⁶ As opposed to self centred, coercive or manipulative leadership

Having looked at the question of leadership we now turn to another part of the sustainability designer's "life plans", particularly the component that looks at existence in the physical world, and the implicit assumption that a major role of the designer is to create physicalities.

Physicality – Praxis in Space and Time

In section 2 of his Sixth Study in *Oneself as Another*, Ricoeur describes a person's relationship to the physical world as the relationship between narrative and praxis. He describes his narrative theory as being the "central position in the course of our investigation as a whole between the theory of action and ethical theory" (Ricoeur, 1992, pg. 152), and the connections between actions as being "A hierarchy of units of praxis must be made to appear each unit on its own level containing a specific principle of organisation, integrating a variety of logical connections" (p.157). Ricoeur discusses the details of this relationship between the practitioner and their praxis in three areas. Firstly, he identifies that actions can be linked in a linear manner of cause and effect and at each point in the chain of causality the agent (in this case the designer) can intervene. An interesting point is that Ricoeur considers that this capacity to intervene characterises a specific profession, which supports the idea of a sustainability designer as a profession as was discussed earlier. Secondly, while there is a linear cause and effect relationship within praxis, Ricoeur also identifies a different kind of connection that he describes as "second order" units. He says "These are no longer linear relations like the ones we have just examined but nesting relations. Now this series of nesting relations – hence relations of subordination of partial actions to a global action – is joined with the relations of coordination between systemic [structure] and teleological [direction and purpose in time] segments only to the extent that both sorts of connection are unified under the laws of meaning...[of the particular practice] (p.154). So for Ricoeur, although the designer will have to look at the linear relations which tend to be favoured by the Modernist approach to problem solving, they will also have to examine nested, structural and time-dependent relationships that are embedded in the values or assumptions that constitute the narratives that make up the issue being addressed. Thirdly, these relationships are framed within a structure that operates in space and time and have meaning within a narrative context. For Ricoeur life is not absurd with no meaning or only has meaning accorded by our decisions, as would be required in the Modernist prescription; rather he poses the question: "If the gap is as great as it seems between fiction and life, how have we, in our own passage through the levels of praxis, been able to place the idea of the narrative unity of life at the summit of the hierarchy of multiple practices?" (p.159). As can be seen for Ricoeur it is the narrative unity of life that brings together the fiction that we create to produce our personal meaning and the experience of life as it is external to ourselves. These three concepts have been taken into the reflection on how a sustainability designer could design something physical, in Chapter 9.

Moving on from the point of creating physicalities we now turn our attention to how a sustainability designer works within their community to create a working space in which others can co-create sustainable systems.

Forums and the Narrative Unity of Life

Recapping the sequence of discussion to this point, we have taken Ricoeur's understanding of narrative identity as being made up of a linking of selfhood and sameness. This duality of identity in space and time challenges us to recognise that when we intervene in this narrative we change the narrative and are changed by it. Extending this idea to consider the leadership role that the sustainability designer must use in their work – a leader must understand their own personal narrative and how this links with the group narrative. This will create an authentic leadership, whichever leadership style is used. The next step in creating a sustainable development is that the sustainability designer has based their practice in a dynamic tension between life stories and what is unfolding in the real world. So now we turn to how to work with others to co-create a working space or forum for sustainable developments, and here we will use Ricoeur's idea of the narrative unity of life and the role of stories to help organise life. He says:

“As for the notion of the narrative of unity of life, it must be seen as an unstable mixture of fabulation and actual experience. It is precisely because of the elusive character of real life that we need the help of fiction to organise life retrospectively, after the fact, prepared to take as provisional and open to revision any figure of employment borrowed from fiction from history.... And we also have the experience, however incomplete, of what its meant by ending the a course of action, a slice of life” (p.162).

This view of the narrative unity of life is a far cry from the modernism of ever-onward, ever-forward for betterment of humanity, based on our own assessment of how we should proceed. According to Ricoeur as designers we can no longer stand off-stage directing events into our grand scheme – this is the path to creating wicked problems.

Ricoeur's description of the *narrative unity of life* as “a mixture of fabulation and actual experience” has to find an outworking in the real world. He explores this in his Seventh Study in *Oneself as Another* where he investigates the question of how do we “aim at the good life with, and for others, in just institutions” (p.169 – 202). For the designer working on sustainability the implication of this question is “How do we create the institution where people with different convergent narratives can meet, take the time to work through, and create a new narrative and physicality that aligns with the sustainability values that we hold as important?”.

Ricoeur divides and discusses “Aim at the good life with, and for others, in just institutions” into a number of sections. With respect to the concept of *aiming* he talks about how we balance what we wish to be with what we are, and says:

“It is therefore, by convention, that I reserve the term ‘ethics’ for the aim of an accomplished life and the term ‘morality’ for the articulation of this aim in norms characterized at once by the claim to universality and by and effect of constraint.... I propose to establish ...(1) the primacy of ethics over morality, (2) the necessity for the ethical aim to pass through the sieve of the norm, and (3) the legitimacy of recourse by the norm to the aim whenever the norm leads to impasses in practice ...” (Ricoeur, 1992 p.170).

We need to be clear about our ethical or higher order aims. Often in our praxis we are able to articulate aspirational goals such as “zero carbon” and “equitable distribution” but then the less than perfect world is encountered and we are faced, either as individual designers and/or with the group with whom we are working, with the daunting challenge of how to achieve these goals. Often the temptation is to abandon the aspirational goal and accept that a lesser standard will be adequate. Alternatively the temptation is to climb onto the high moral ground, particularly when we have the opportunity to critique the existing and surrounding praxis of others, and hold to our values while critically standing aloof from those immersed in the real world. Either of these positions is easier to hold in a modernist framework which allows us to decide, executively, how to respond to aspirational goals. Ricoeur’s challenge for the designer is to continually refer back to the aspirational goals in their own praxis and to the incorporation of others into that praxis.

Ricoeur’s distinction between ethics and morality in responses to “norms” is also instructive. For a designer it is important, as has been discussed earlier, to work within a well-developed ethical framework. If the only frameworks available are based in norms, as is likely to be achieved in the statistical relativities of modernism⁴⁷, then there will be no clear guidance as to where we should be going. The alternative, in Ricoeur’s thinking, is recursively passing our ethical framework through the “sieve of the norm” to ensure that the ethics produce a practice that is achievable. If there is a discrepancy in this sieving process we have to do the hard work to refine, but not dilute, our ethical framework. This is a very powerful framework as it allows a big vision of what could become a living reality while at the same time recognises a humbling reality that we have to live in the real world. The challenge for the designer is to create a working space where this mixture of multiplicity of narratives, fabulation and actual experience, ethics and morality, sieving and normalising, all work in an interconnected pattern in space and time. This is discussed further in Chapter 10 Forum.

SUMMARY

This chapter has been a hard, journey largely because Ricoeur’s work is so extensive and far reaching and I have had to pick the cherries, which are relevant to this thesis, out of the metaphorical cake, while still trying to retain a linkage back to Ricoeur’s remaining (extremely expansive) work. Any misrepresentation of his work is purely due to my lack of insight.

I have used Ricoeur’s work on identity to support the idea that, for a sustainability designer a narrative understanding of identity is a better framework for work than the typical Modernist, individualistic understanding of life. At the same time I would reiterate that we cannot abandon modernism for a return to some bygone era; we need a new definition, and it is the narrative understanding of identity that gives this new definition. The key features drawn out of Ricoeur’s work are, firstly that a Modernist understanding of identity as a disembodied self-aware thought “I think therefore I am” which tends to ignore history, personal identity, space and time, is more likely to create wicked problems.

⁴⁷ Or the sensory relativities of Post-modernism

An alternative understanding of identity, which is a complex interplay between selfhood and sameness, provides a starting point for a new way of seeing the world and a new relationship between the designer, their practice and the world in which they are working. This narrative identity is real and exists in both space and time. This narrative understanding of identity includes beliefs “in”, and assigning values “to”, as well as facts “about”. It does not limit itself to the Modernist prescription of “we only deal with facts”. When the designer interacts with the world in which they are living they change the narrative of the world and their personal narrative is also changed. Narratives break down into a general linear movement but at the same time each narrative can break down into sub-narratives, they can be nested inside each other and have obscure relationships between each other. In addition narratives are about real things and people and have to be approached with the insight that we use stories to help us understand how we fit into the world; and finally we should at all times construct spaces where our work operates in the context of a well-developed ethical framework. In this space we should always undertake the difficult task of comparing our practice against the ethical framework while also testing whether the ethical framework is sufficient to support our practice.

This practice is discussed in the case studies that follow where we explore understanding narratives at an individual level, and their role in wicked problems, exercising leadership, creating physicalities, and producing forums.

In our work as designers this understanding of narrative identity is a very different design framing to that used by modernists. It is a more difficult and humble proposition in that it requires continued outworking in the real world and with real people if we are to solve and avoid recreating wicked problems. Translating this into a practice draws on all these characteristics that will continue to emerge in the following chapters.

Chapter 5 – Personal

This research project has grown out of over 20 years of professional experience and is an attempt to capture why I do what I do. It is inevitable when working within a narrative identity that the self has to be engaged rather than hiding behind a façade of objectivity. If we are not aware of our story then we will not be aware of how we are affecting the design or how we are changed by what we do. So this is an intensely personal story that reflects my assessment of Ricoeur's questions "Who am I?", "How shall I live?", and the ever-changing relationship between being uniquely me while at the same time sharing a common identity with others and the world. So this is my story.

Rather than trying to tell it chronologically I have chosen to tell the main themes that formed and influenced my design practice. It is an attempt to apply Ricoeur's ideas of the narrative unity of life and does have that...*unstable mixture of fabulation and actual experience*. On the one hand there is a linear temporal aspect, things have changed over time; on the other they are just an interconnected mix of narratives nested within each other and in a hierarchy over each other. Other narratives could have been written. Take this one as the interim version.

Why do it – Belief

I grew up in a fundamentalist Baptist church, my father came from Irish Brethren stock (Dickson, 2011), and became a Baptist because there was no Brethren church in Albany, Western Australia, where he grew up. My mother was English who was also Baptist but was sent to an Anglican girls school and consequently, although she had a very strong faith, was more relaxed about interactions with people outside of the faith than my father. The Brethren and Baptists are a very independent and self-directed part of Protestant Christianity. In their more extreme forms both the Brethren and Baptists could be characterised as sects with strong group cohesion, strict social mores and well-developed control structures based around these social mores. The part of the Baptist church that I grew up in could, with the benefit of 50 years of hindsight, be considered to be more like a sect than what is found in today's mainstream Baptist churches.

Historically the Baptists, and more broadly the evangelicals,⁴⁸ trace their ancestry to sixteenth and seventeenth century anarchist groups that developed in Europe, and particularly in England, which believed that the reformation of the Catholic Church of the previous centuries that resulted in the creation of the Protestant churches and the Church of England in Britain, had not gone far enough in breaking the power and corruption of the clergy. The early Baptists pressed for a more radical reformation that focused on the ability of the individual Christian to interpret the Bible for themselves without mediation or translation by a theological or clerical elite. These Baptists held strongly to the concept of liberty of conscience and considered that neither creeds, confessions, church councils nor the clergy had any authority over the individual's conscience. This was

⁴⁸ Unlike Baptists, which is a specific Protestant denomination, "evangelical" is a description of a set of beliefs. There is a strong confluence between Baptist beliefs and evangelicalism.

paralleled by a strong belief in the equality and liberty of all people and the need for justice for all. The early Baptists had all the hallmarks of the individualism of the early modernists in their support for freedom of individual thought but linked this individualism to a strong commitment to a transcendent God that intervenes in history rather than the modernist position of the human being alone in the universe.

The Baptists (Baptist Union of Great Britain, 2013) were also strongly committed to local democratic government of churches, as opposed to a clerical hierarchy. Each local church community democratically elected its own administration. The church business meeting, not appointed by a centralised bureaucracy, elected ministers. In theory the Baptist clergy have no religious leadership or sacramental role and can be considered to be more of a paid church worker with particular expertise in Bible teaching, acting as a quasi-executive officer for the local church, and undertaking a level of pastoral care for the church community. As Baptists have no formal church hierarchy their collective activities tend to be done through a voluntary engagement of a group of churches on a specific project or through unions/alliances of local churches for more diverse matters.

Having said this, the Baptists also live in a tension between their independent and democratic ideals and the human desire to form hierarchical structures, with strong leadership, to provide a comforting framework for people who want to be told what to do when faced with the complexity of life. Consequently many Baptist churches have very significant, if informal, hierarchical structures with the minister and a small select group of men⁴⁹ who run the church.

Historically, in the seventeenth century, these concepts of individuality, direct access to God, and democratic government of local churches was a very strong and courageous position to hold both politically and culturally. It placed the early Baptists in real danger of persecution from both Church and State. This strong emphasis on the freedom of the individual has meant that, over the years since their origins, Baptists have demonstrated a wide variety of thought, some of which were distinctly eccentric and resulted in extreme beliefs and practices⁵⁰, and although there have been some tragic aberrations of original Baptist beliefs over the centuries, considerable vision and principled and heroic leadership has emerged out of the Baptist and evangelical thought which has brought real change to the world. Examples include William Wimperforce who was a major leader in the abolition of slavery in the United Kingdom, Dietrich Bonhoeffer who was a major spokesperson against the Nazi regime and was executed by the Nazis twenty three days before the German surrender in WW2, and Martin Luther King, one of the leaders of the movement for racial equality, assassinated in the USA in 1968.

This emphasis on the rights of the individual also extended into a second major Baptist principle – the Bible is inspired by God. In the extreme the Bible is taken as the inerrant statement from God⁵¹ and results in a very literalistic and legalistic interpretation of what the Bible says and, as a corollary, whatever is not specifically commanded in the Bible is probably sinful. This, when coupled with the strong belief in the liberty of conscience

⁴⁹ Amongst protestant denominations the Baptists have been particularly slow to adopt sexual equality of leadership

⁵⁰ A tragic example of this was Reverend Jim Jones who was the founder and leader of the Peoples Temple, which is best known for the November 18, 1978 mass suicide of 909 Temple members in Jonestown, Guyana

⁵¹ The question of inspiration of the Bible causes considerable dissent amongst the Baptists. Some believe that the Bible was dictated, as similar to the Quaran or the Book of Morman, by God. Others take a more rational position and see the Bible as a collection of semi-historic narratives in which the history of the relationship between God and humanity can be traced but is open to interpretation.

and the freedom of the individual, can led to some fairly sect-ish behaviour where a dominant leadership decides how the Bible should be interpreted and applied to everyday life.

The section of the Baptists in which I grew up unfortunately knew little of the heroic, historic leadership that had changed the world, and was more characterised by strongly independent, somewhat anti-intellectual individuals who emphasised their right to set up and run churches largely based on their desire to “have their own show” for people who thought like them. This was supported by a strong sub-culture of well-encoded acceptable behaviours (Galloway, 1995)⁵³.

Typically the small group of men who ran the church would use the democratic processes of the church meetings to dictate the type of minister the church would have and how the church would run. Generally the biblical instruction would be fairly simple, legalistic and conservative. There would be strong emphasis on being “saved” from sin in anticipation of a reward of going to heaven in the afterlife. Moral questions were generally framed within the context of personal, and particularly sexual, morality. There was little engagement with the “world”, which was those places and people outside the Baptist Church including non-Baptists, thus moral questions relating to global social justice, equity, economics did not rate on the agenda.

The strong focus on maintaining social cohesion through a church culture and community created its own particular conventions and acceptable and unacceptable behaviours. This was supported by a belief system that allowed interpretation of the inspired, inerrant scripture by the local leaders of the church to dictate these conventions and behaviours. When some of these behaviours seemed to be strange or disconnected from reality we were often reminded that we were “saved” and “chosen by God” and as such these behaviours were a sign or symbol of our specialness to God. This was in turn counterbalanced by the preaching that we were all bad and terrible sinners having to be ever ready to watch for the influence of the devil, which would draw us away from God. In my later teens this formula just did not make sense and the cracks became very apparent in the supportive but monolithic structure in which I had grown up.

For a child and young person growing up in this context it was a potent and complex psychological mix. After I left the church in my late teens it took many years to sift through what I had grown up with and what had shaped whom I was. There were numerous positive outcomes that I took away. Firstly, I had an entry into the idea and experience of the transcendent, the sense that there is a bigger story, that I am not the measure of all things and I am part of a greater creation. This helped with learning humility, seeing my place in the universe and that we are part of a narrative, not just individuals floating in a disinterested sea of ideas and feelings. It also opened up the very important idea of being part of a greater narrative that provided direct linkage into work later in this thesis on the role of identity and narrative.

The idea of God owning the natural world but placing humans as the stewards of the world⁵⁴ was a metaphor that I have carried throughout my life and influenced why I got involved in engineering and environmental science and later in sustainability. Study in these areas was an opportunity to gain the tools to be a steward. This is in

⁵³ The author was my father who had a lifetime commitment to the Baptist Church and at times served as the President of the Western Australian Baptist Union of Churches

⁵⁴ An extensive discussion can be found at <http://www.christianecology.org/Stewardship.html>

stark contrast to the modernist idea that humans can own the world, and that the world is there for their use. The metaphor of being stewards was also powerful because it requires the individual to be continually reflecting on our behaviour rather than just proceeding with their own self-interest.

The idea of “hope” has also been very important. Hope, in a Biblical sense, is different to optimism or wishful thinking. It is the belief in the importance of right action even if the path to the outcome is not clearly defined. When confronted with the complexity and enormity of the issues that have to be addressed by a designer working on sustainability, hope is a sustaining virtue that extends well beyond the egotistical desire to produce a particular outcome. Hope is also sustained by compassion and a commitment to doing good in the world, for its own sake. In the church in which I grew up the concept of doing good was underpinned by a somewhat Machiavellian motivation that good works were a way to attract people to the church and convert them to the faith. Later on, when I was able to separate the motivation to do good for its own sake from the proselytizing, I found that doing good carried its own rewards in a quietness of soul and a centeredness.

Growing up in the church also gave me a first-rate knowledge of the Bible, one of the major forces that has shaped history and, particularly, Western thought. It has provided metaphors for much of my work and explained so much about why Western civilisation has developed as it has. Being able to put projects into long-term, historic contexts has been very helpful in understanding how problems have been created and also allowing solutions to emerge. It also built an understanding of the narrative unfolding of history and how humans can play a role in the evolution of that narrative. Much later when I came to the work of Paul Ricoeur I was able to revisit this understanding of narrative and human engagement in narrative in a new light. While this narrative unfolding of history, for me, no longer extends teleologically to the Apocalypse as it did in the teaching of the Baptist Churches, it does provide me with a sense of context for my work that I am affecting, and being affected by, history.

At a personal level the strongly independent nature of the Baptists and their desire to swim against the main stream, coupled with my family’s small business acumen, produced the confidence in my capacity to do my own thing and resulted in starting a sustainable development consultancy company in 1993, well before sustainability became the over-used word that it is today. It also gave me the sensitivity and interest to challenge predominant paradigms and not to accept the status quo.

There were also a number of very practical skills that I learned in the church including, surprisingly, the ability to preach and organise churches. As young Christians in both the Church and University Christian groups we were trained how to prepare and preach sermons, led church services and organise church meetings. This was extremely valuable training in the world of business and public life as many of the skills needed in business – public speaking, meeting procedures, group organisation – were essentially the same as the skills developed in church.

There were however some darker shadowy sides to growing up Baptist that have left a long legacy, the main one being an unrealistic understanding of what it means to be human and live in a normal society. The Baptist idea

of a group of people who had special knowledge and personal relationship with God tended to create an over-inflated assessment of our own importance. This was counterbalanced by an overly unhealthy obsession with sin and failure and the need for ongoing repentance and proof of this repentance by adherence to the church culture. The reality for humans is that we are mostly in the middle – not perfect but not that evil either, merely human. Growing up with this deep dichotomy coupled with being strongly engaged in a particularly non-normal culture made it very difficult for me to learn how to be “normal”. It took many years after my late teens and early 20s to learn simple things such as how to talk to people about mundane things of life, how to drink and eat socially and basically how to “fit in”. This was an impediment to working in the everyday world, consequently it has taken many years to understand how to present my work in a mainstream context and how to do the networking that is necessary to market a business. Even today, while I can do business networking, I envy the familiarity and ease of association of those who grew up being part of the football club, the boys who went surfing together and those who partied together during university. The church with its narrow confining and different culture could not equip me to be part of that world.

Why do It – Being different

At my twenty first birthday my parents had a poster made and hung on the wall of the hall in which the party was held. The poster showed two sets of foot prints, one with two feet, the other with three, and the caption “*Happy Birthday Dave – you are different*”. I’m sure that their intentions were very honourable and loving, but it was true I was different – a bit. When I was in primary school and early high school I was academically very successful, then somewhere around sixteen or seventeen years old things began to come unstuck. Life began to not make sense and my grades began to slip. These days it would be recognised as the onset of what has been called manic-depression, bipolar disorder or some other title. For me it was characterised by highs where being very silly and creative was intensely fun, then times of extreme lowness and lack of ability to focus on work or study. Things reached such a point where, when I was nineteen I had a failed suicide attempt, which really woke me up to the fact that something was not right. At that stage I was studying engineering, working in the church setting up and running a drop-in centre for street kids, leading the University Christian group, struggling trying to separate the life I wanted to live from the conservative church culture by trying to follow the teachings of Jesus in my personal life, surfing, and having an ongoing bad relationship with a girlfriend. The fundamental issue that drove the desire to suicide was not that I really wanted to be dead, but rather that the combination of the highs leaving me exhausted and the lows making everything look so bleak, meant that when analysing my future any scenario that I was able to construct seem appallingly bad. The only way out of the mess seemed to be to kill myself. I went to the doctor to try and get some help and was prescribed an early version of valium but after a few days relief from the depression I was left feeling numb and like I was living in a cotton wool fog. After a few months I stopped the drugs and began to try and find help from counsellors.

So began a twenty-year period of working with a number of different counsellors to free myself of the bipolar life. As with many people who have a mental illness I was able to conduct an apparently normal life – to finish my studies, get a job, form relationships, buy a house and mostly I was able to appear normal despite what was

going on underneath. For this I am extremely grateful because I have met many people who are completely crippled by what is occurring in their heads.

There were some notable outcomes of this process of moving on from illness. Firstly, being mentally ill felt incredibly normal and it was very hard to check my reality against what other people were experiencing. My early professional work, I think, was characterised by flashes of extremely good quality output that was sabotaged by taking on too many projects; letting fire with manic humour that I thought was incredibly funny but others thought was obscure, stupid or just plain offensive; or periods of non-productive depression resulting in an inability to finish projects.

The thing was that none of this felt unnatural and I could not understand why my work colleagues had a very mixed response to how I was behaving. The turning point came when I was working with one counsellor during a period of depression. He said, in response to my analysis of how bad my life was, "You are incredibly arrogant to believe that reality is how you think it is", which was a big, but necessary, slap in the face and the first major step. This shift in perception began a long period of learning to focus on what life, or project, "was" – not what I thought it should be; then to set a goal and work consistently to finish that project. This was an extremely beneficial lesson for having a professional career.

Learning to focus on what "is" was also a useful lesson in learning to head off the depression or the highs. Over the years I have learned to recognise the signs of the onset of depression or a high, and then do the what is necessary to avoid a full-blown episode, such as relax, take a break, talk to friends, eat properly and exercise. All simple stuff but it was very hard to learn particularly as the highs were so seductively fun. And at times I still slip up and get excited and say something stupid or just feel low and clam up when I should be out in public. Still, nobody is perfect.

When I started working one-to-one with counsellors they generally used an approach that would now be called Cognitive Behavioural Therapy⁵⁵. CBT helps people look at what they believe about reality, assess how this affects their behaviour, then helps them choose if they want to continue with that belief and behaviour system. If they reach the conclusion that they want to change the therapist helps them find a new belief system and new behaviours.

Intimately learning how CBT operates from a personal perspective built a very valuable skill for working with people in my design practice. It is my assessment that most wicked problems have a significant component of misalignment between peoples' value systems and behaviours. If the design practitioner is able to work with people within a therapeutic framework that considers their beliefs and behaviours then the resolution of the problem will emerge more easily than if personal and group beliefs are ignored and seen as irrelevant to the solution.

⁵⁵ <http://www.rcpsych.ac.uk/mentalhealthinfo/treatments/cbt.aspx>

Later, in the last five of the twenty years that I was working intensively to resolve the highs and the lows, I worked both one-to-one and in groups with Jungian therapists. Jung's work is based around the idea that our identity is an assemblage of energies or archetypes that we draw from many sources – genetic, mythological, historical, familial, environmental, cultural and contextual. The Jungians maintain that as long as we are unaware of these energies or archetypes they will continue to manifest themselves in our lives but, without conscious management or control, often with destructive outcomes. An example in my own life was the identity that I acquired from the church that I was a bad sinner; this led to an unconscious and unhealthy striving to counterbalance this with good works, according to the church's dictates, even if this led to the point of exhaustion and the onset of depressive episodes.

According to the Jungians the role of the mature human being, assisted if necessary by the therapist, is to become aware of these energies or archetypes and integrate these into a whole person who is able to use these energies to bring good to the world, rather than being unconsciously dominated by them and just following the societal norms and dictates.

Probably the most profound insight that I got from the work with the Jungians, and one that I can not yet explain, is that my capacity to design, that is to see patterns, understand emergent trends, intuitively link disparate agents and pull it all together as a project, comes from the same psychological and psychic place as the mania and depression. This process was a bit of a reluctant admission – I never saw myself as a designer, however the more I realised that I was a designer and began to work as such, even if it felt a bit fraudulent at first, the less the mania and depression was an issue. I think that the mania and depression was, at its core, a call to be creative in the world and when that creativity was not expressed it emerged in a dysfunctional and self-destructive form.

A further application to my professional work that I gained from the Jungians was the realisation that metaphoric or archetypal language is an extremely powerful agent of change for either a person, or a group. When working with groups on a design problem I find that if I can move the group thinking into a metaphoric framework people will find it easier to find solutions to problems. A simple example of this is the work described in the case study in Chapter 9 where it was easier to talk metaphorically during the design process about different users of an ecotourism resort as hobbits, gods, and snowbirds rather than in rational terms of client demographics and economic spending potential. This non-rational, but not irrational, approach is very powerful because it is embedding the design into something that is primal and about human identity, and therefore more likely to be successful in promoting change.

So now I have moved on, I have stopped using a mental illness as a way to define who I am and what I am about. The high and low energy is still there and still, occasionally, has to be managed. But now finally it is an energy to be used, rather than an energy to be fought.

Why do it – Building

I have always loved building. When I was a kid we used to build “cubbies”, make-shift shelters and play spaces, made out of junk. As my friends and I got older the cubbies became more elaborate, more adventurous, including almost killing ourselves in a collapsed underground tunnel, and more architectural.

This desire to build is probably genetic and was strongly supported by the fact that my father had an electrical contracting and structural engineering business. From an early age I used to hang around the workshop and the tradesmen used to teach me how to weld, do plumbing, wood-work and a whole lot of other trades skills. The tradesmen used to discuss whether someone “knew how to use their hands” as a measure of their personal estimation and their assessment of someone’s ability to contribute to the world. A person, particularly a man (as they tended to think in those times), who could not use their hands was not considered to be fully grown up or worthy of respect. As a young person it was valuable to have this right of passage as a way to define who I was, and it instilled in me a deep respect for the effort required to develop technical skills and the value of high quality craftsmanship. This was particularly grounding in later life when encountering pompous bureaucrats or self-important academics that believed that the power of their intellect was the only measure of a person. At a practical level, learning how to use my hands has been invaluable in life, particularly as I have built and renovated a number of houses and been involved in property development, which enabled me to test out sustainable house design and construction in the real world.

Building has also been a coherent theme through out the changes in my life. In 1971/72 in the last years of high school and as I began to move out of the church culture I became aware of the moral and geopolitical issues around the Vietnam war. It hit me that if the war continued for another two years there was a real possibility that I would get conscripted which was not a desirable outcome either personally or in the context of global politics. The high school that I was attending was in a fairly rough area (Midland, Western Australia) and the teachers were at full stretch just keeping the students under control; consequently it was not difficult to absent ourselves and go into Perth to join the anti-Vietnam war Moratorium marches. The amazing thing was that with all the absences and the general roughness of the school a few of the teachers were able to help us get through our university entrance exams even though only three of the ninety or so students went to university.

It was during these Moratorium marches and the discussions afterwards that I became aware of the hippy counter-culture movement. This, with its nascent environmental movement, back to nature philosophy and simple living was particularly captivating. I bought the *Whole Earth Catalogue, Build your House of Earth*, the adobe and mud-brick primer, the early editions of *Earth Garden* and dreamt of building my own self-sufficient paradise on earth somewhere in the Western Australian bush. This was the path away from the exploitative world created by the capitalists.

After graduating from high school in 1973 I started studying engineering which was selected largely by my parents because I could not make up my mind what to study and as they commented “you like building things”. While I was at University and still dreaming of the back to nature utopian society I continued fighting for the cause by becoming an environmental activist against Alcoa, the US bauxite miner that was going to destroy the

jarrah forests, and against the logging of what is now referred to as old growth forests. Studying engineering provided a very useful skill set but I found increasingly that, while engineers at that time were very ethical in that we were well schooled to build with integrity and not to over charge the clients, the conception of a bigger ethical framework that included the environment that I was interested in was not on their radar. As a consequence of this, once I finished engineering I enrolled in the newly created course in environmental science at Murdoch University. This was a real time of radicalisation as Murdoch was a new university with a grand vision of a different education and different society, and there were many students and lecturers who were actively thinking about changing the world – just my type of people. It was during this time that I met people like Professor Peter Newman, Dr Ian Barns, Dr Patsy Hallen who were inspiring in their thought and challenging in their lifestyles.

Following graduating from environmental science in 1980 I gained a job at the newly created Western Australian Department of Environment and Conservation which later became the Environmental Protection Authority (EPA). During this time I learned a wide variety of environmental skills including environmental impact assessment, policy, what would later become natural resource management and pollution control. During the early 1980s I took time out from working in the EPA to go and visit friends who were working on international development projects because I had a strong sense of social justice and was committed to seeing change happen in the world. This exposure to international development projects began a long-term investigation and questioning of the right and the appropriate methodology of intervening into another culture. Books like *Small is Beautiful* (Schumacher, 1975) and the discussion around appropriate technology were particularly important in these early investigations.

In the second half of the 1980s I moved on from the EPA because I felt that the government process was a fairly inefficient way to achieve real change and also felt that I had only ever worked at the policy end of change, never done any truly hands-on work – I had never built anything in the real world of business. I left the EPA, and after my new wife had finished her research in the Kimberley, I got a job with a mineral sands company in the south west of Western Australia. The journey from a 1970s activist against Alcoa to working for a mineral sands company at the end of the 1980s was driven by a realisation that to be consistent I had to accept that I was strongly enmeshed in a technological society and drew considerable benefit and comfort from this enmeshment. Therefore if I was to be engaged and still try to improve things, rather than sitting on the high moral ground saying “Stop the....”, I would have to be part of developing an alternative paradigm and praxis, essentially working in and with the system to build a new future. Working in a mining company at that time and trying to develop this alternative paradigm was a bit like an extreme sport – exhilarating but a fair amount of serious crashing also went on. It was however an opportunity to reawaken my engineering skills and work with real tangible objects and build big things like repairing hazardous waste dumps and installing pollution control equipment.

A parallel benefit of working in the mineral sands company was that I was close to Margaret River in the south west of Western Australia where we had bought a small area of degraded farm land and were able to embark on the hippy dream of building our own mud brick house, and growing our own vegetables. This process took from the late 1980s until the early 1990s. Looking back at this parallel life of trying to improve the mining industry from the inside while at the same time trying to live the alternative lifestyle produced some interesting insights.

Firstly, the alternative (or as we now call it a sustainable) lifestyle follows an exponential cost-benefit curve. It is relatively easy to become self sufficient in, possibly, half your food; and with careful planning, for example using bikes, transport can also be significantly improved with minimal effort. Technological advances also now mean that energy supply is also relatively easy to improve. But the effort required increases exponentially relative to the benefit produced the closer you get to the 100%. At some point it is better to switch to linking into and benefiting from an integrated and linked economy and production system than to try and do everything “in-house”.

Secondly, the high moral ground is not a constructive place to live. In my early years as an environmental activist I was one of the “stop the....” people. Having tried to live the sustainable lifestyle I then realised that I had to make real ideological compromises to be able to live in the real world. Working in the mining industry and being on the receiving end of attacks from the eco-high-moral-ground-ists who were opposing projects that were a serious attempt to improve the environmental performance of the mining industry, convinced me of the shallowness of living on the high moral ground. Probably one of the most salient insights I gained at that time was reading a critique of Deep Ecology by Murry Bookchin (Bookchin, 1987). This critique commented that Deep Ecology, at that time, had no “theory of transition” – how to get from where things were to the new green economy. I realised that a new approach was necessary, one that was characterised by a degree of humility and a commitment to hands-on engagement and that was about building a theory of transition from the ground up. And it is this insight which has lead, twenty years later, to this thesis. The thesis is not a complete theory of transition but it is a set of tools that I have synthesised and that have worked for me and it does show in both theory and practice that a transition is possible.

By the end of the 1980s the first major steps were being made in what became the sustainable development industry. I worked on a Masters degree and in 1993 started my own sustainability design consultancy company. In the early days we could not describe ourselves as a sustainability design consultancy, we had to say we did environmental science, or community consultation and just add in the sustainability stuff as an extra and hope that the clients did not get too upset. And although the first three years were difficult it was successful. We had up to six people working in it running a number of projects. But that led to a lack of focus and the problem of “feeding the beast” when we took on too much work just to bring in the money to keep the business going and paying the staff.

In response, from the mid 2000s we stripped the company back to three key people, pulling together teams of like-minded independent people to work on projects. Our focus is doing projects that deliver on our core design business. Essentially we are now no longer a sustainability business, we are a design business that focuses on sustainability as is reflected in this thesis. We are also very flexible and mobile, our business is completely in the clouds and we run a moveable company. We can work anywhere and in any context.

The motivation for being in business is that it does good and we build real world projects – we create places people can live in, businesses that are productive, and do activities that change the world. Also it pays the bills

and is generally a lot of fun. I have gone past the stage of wanting to create an empire or make a fortune. Now it is about having a quality output and inspiring people.

Why do it – Mentors

None of this could have happened without having people to look at and model. Firstly, there were my parents and particularly my father. He was the epitome of a self-made man, having been born in the 1920s to an English/Irish settler family in remote bush country north of Albany. His father died when he was five years old and his widowed mother and brother and sister had to move off the farm and into Albany. My grandmother, by sheer hard work and determination, re-established the family, provided an education for my father and organised for him to go to Perth and get an apprenticeship in the Railways. After the Railways my father never looked back and ultimately built up a prosperous electrical contracting and structural engineering business.

Although he was successful in business his primary love was people and the church. He gave away a lot of time and money to the church, the Baptist Theological College and helped many people. In his mid-fifties he decided to go to university and became an historian completing a Masters Degree, and in his late 70s beginning a PhD which he never completed because of the onset of ill health. From him I learned the value of hard work, that there are really no barriers in life, and the value of an open and inquiring mind and generosity.

When I attended Murdoch University I met Ian Barns and Peter Newman. Both of these men were Christians who were interpreting what they believed through their research and action. Ian provided a kindly and pastoral pedantic-ness to my woolly and excitable thinking. After listening to me spouting forth about some new theory, or how my latest idea would change the world, if someone else would do it, he would look at me and say “well that may be true but” And the “but” would put me right back to basics – a valuable lesson in how to think through from theory to praxis.

Peter was a different type of person – a leader, dynamic, visionary, driven and activist. My association has continued with Peter over the past thirty five years. He has always been out the front doing big things that change the world at a global scale which has been inspiring and from time to time has made time available in his schedule to provide personal guidance, support, and entry into work opportunities. Having someone of this calibre as a wing-man greatly increases the confidence to take on bigger things, and for this I am eternally grateful.

Finally, there is my wife and partner Debbie, who is probably the most frustrating person in my life. Deb has had a lifelong commitment to remote and rural health, and Aboriginal development. Consequently our life has been a constant tug of war between my desire to run a business, do city stuff and be mainstream; and her desire to have a professional career living out in the bush somewhere and working with remote communities. Despite this we have held it together somehow and propped each other up over the years. Probably the only way I can describe this relationship is as “grounding” but also mutually supporting the vision that we don’t have to repeat the past and we collectively as humans can create a different society.

SUMMARY – WHY DO IT?

So these have been a few of the influences. It is a narrative and, as such, creates an identity. Is the narrative true? Well, it is factual, but at the same time it is only a construct that grounds the rest of this thesis in a personal experience and attempts to explain the journey of a sustainability designer and why it is still an ongoing process. In Ricoeur's terms it is a mixture of fact and fabulation. So from this point I begin to drill down into my practice and examine why I do what I do. Each of the case studies are strongly narrative based and have their own particular focus.

Chapter 6 – Stories

The title, “Stories”, alludes to how each of the narratives that unfolded and intersected with my work in Vietnam takes Ricoeur’s analysis of narrative identity to demonstrate how convergent narratives combine to create wicked problems. This chapter and the one that follows examining Intervention uses two work trips to Vietnam in 2004 and 2006. In both cases I was working with (generally) the same group of people, and both projects were “development”⁵⁶ projects, although they were very different in their natures. There is a short introduction to the project and location where we worked then we drill down into a number of convergent narratives that combined to create a wicked problem of what to do about children and Vietnamese war veterans who were victims of Agent Orange. These narratives are numbered to identify them, then the implications of how they meshed together in the project are explored.

INTRODUCTION

In July 2004 my wife, daughter and I went to work in Vietnam at Lang Huu Nghi or the Vietnam Friendship Village (VFV), located 18 km outside Hanoi. While the VFV was referred to as a “village” in reality it was a combination of a joint Vietnamese and international veterans’ community, a NGO structure that manifested a collection of very modern, institutional buildings that had been built to assist and treat Vietnamese children and veterans who were victims of the Agent Orange used in the 1960s – 1970s Vietnam War. The original concept was that the Village was built to provide medical stabilisation for the children and Vietnamese veterans, then vocational training so that they could go back into their villages and find employment.

We went under the auspices of Australian Business Volunteers (Australian Business Volunteers, 2009) an AusAID-funded organisation providing short-term placements for Australian business professionals to assist with skills transfer in countries with emerging economies. Our invitation to work with the VFV came from the international donors who supported the VFV. My wife’s role was to create a physical recreation program, mine was to work on business enterprise development and help the VFV become economically self-sufficient. This was to be about working at the interface between business planning, finances and community.

In reality, our experience was very different to the job description. The VFV facilities were of an exceptionally high standard, reflecting major financial contributions from the international donors; and the physical care of the children and veterans was of an equally high standard reflecting the Vietnamese commitment to looking after people injured in war. Despite this the administration was characterised by what would, in Western economies, be considered to be corruption, inefficiency, conservatism and lack of imagination. Our job was to address this problem and to a certain extent we were successful, but things could have been better. There were many factors that led up to this situation and, unfortunately, it was only with reflection that I have realised that there were massive narratives that were converging and we had descended, unwittingly, into a wicked problem. These narratives are discussed below.

⁵⁶ An intervention to bring about change in a developing economy country

NARRATIVE 1 – THE AMERICANS AND AGENT ORANGE

During the Second World War the Japanese gained control of the former French colonies of Indochina. At the end of the war there was a power vacuum and conflict began between the French, who wanted to return to Indochina, and various Vietnamese independence groups, to fill the vacuum.

The USA initially supported the French and funded their war to regain control over Vietnam. A complex mix of ideology, class, religion and political allegiance aligned the two sides in the war. The Vietminh, led by Ho Chi Minh, were more communist in their thinking, Buddhist or Taoist, nationalistic, intellectuals and peasants and more commonly northerners. The French, with their American backers, aligned with their Vietnamese allies who were often the upper classes, the landlords, the wealthy merchants, the political elite; Catholic or from one of the Vietnamese religious sects; and mostly southerners.

In 1954 there was a decisive victory at Dien Bien Phu signalling the military defeat of the French by the northerners. The Vietminh supported alternately, but not in concert, by China and Russia, then controlled most of the north, centre and considerable amounts of the south of Vietnam. In 1954 the parties met in Geneva and developed an Accord for a transition from military engagement. The Geneva Accord required an armistice, with the French and their Vietnamese allies to regroup south of the 17th parallel and the Vietminh, regrouping north of the 17th parallel, pending a political settlement using elections to form a popular government.⁵⁷

Vietnam was caught up in the global, communist vs. west antagonism of the Cold War. While Ho Chi Minh and the Vietminh were the popular victors, the USA saw this victory as communism moving across the world, as Palmer, a retired US General who wrote a history of the Vietnam – American War, says *“From the beginning our leaders realised that South Vietnam was not vital to US interests. [inter alia] Vietnam was of only secondary importance to the United States, but its geopolitical position was important in that our actions, or lack thereof, in South East Asia would be watched carefully by our allies in the Western Pacific, especially by Japan and South Korea in Northeast Asia, an area that is considered vital to US interests* (Palmer, 1984 p.189-190).

Despite the Geneva Accord's requirement of a political settlement and democratic elections for the leadership of the whole of Vietnam, the USA formed and supported an alliance with Ngo Dinh Diem and the Republic of Vietnam, the provinces of Vietnam south of the 17th parallel which became known as South Vietnam.

The North Vietnamese saw this as a major violation of the Geneva Accord and began a resistance war to take back control of the south, which they believed was rightfully part of Vietnam and should be controlled by the Vietnamese, not the USA.

The resistance movement required military confrontation with the South Vietnamese and their US allies that had to be supported by supplies and resources. The most effective means of transporting these into South Vietnam

⁵⁷ This is a very cursory review of the historical chain of events, there is a considerable discussion of these events in *Vietnam War and American Culture* (Cottrell, 1992) see also (Palmer, 1984) and (Hellmann, 1986; Linenthal, 1990; O'Nan 1998)

was by truck, bicycle and foot along well-observed trails both inside Vietnam and to the west of Vietnam in Lao and Cambodia. This combination of transport routes became known as the Ho Chi Minh Trail. The multiple trails and the dispersed nature of the transport along the Ho Chi Minh Trail made it difficult for the USA to monitor and control the flow of resources to the southern resistance movement. The Viet Cong (the resistance movement) and the Northern Vietnamese army could easily move around roadblocks blending into the vegetation.

The Americans, with their reliance on technology, decided that the most effective way to improve the surveillance of the Ho Chi Minh Trail was to remove the vegetation with defoliants. A report from the US Institute of Medicine states *"From 1962 to 1971, the U.S. Air Force sprayed nearly 19 million gallons of herbicides in Vietnam, of which at least 11 million gallons was Agent Orange, ... [inter alia] ... Herbicide operations in Vietnam had two primary military objectives: (1) defoliation of trees and plants to improve observation, and (2) destruction of enemy crops. Although there is evidence that multiple chemicals were used for various purposes in Vietnam, the use of four herbicides has been documented in military records;... [inter alia]... 2,4-dichlorophenoxyacetic acid (2,4-D), 2,4,5-trichlorophenoxyacetic acid (2,4,5-T), picloram, and cacodylic acid. The 2,4,5-T had a contaminant 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) commonly referred to as dioxin".* Human effects of dioxin contamination include *"peripheral neuropathies, neurobehavioral effects, chloracne, pigmentary changes, skin cancer, hepatic enzyme changes, porphyria, angina, myocardial infarction, ulcers, lipid changes, diabetes, lymphocyte cell types and function, and adverse reproductive outcomes including foetal loss, reduced fertility, and major malformations"* (Institute of Medicine, 1994 p.79).

During our time at the VFV we saw, or heard, of the impact of these chemicals on many people.

TCDD is particularly environmentally persistent and mobile. A study in 2002 reporting on the distribution of TCDD in the environment, animals and human breast milk from one province in Vietnam showed dramatically elevated levels of the chemical particularly close to old dumps and military bases (Institute of Medicine, 1994 p.300). It has been estimated that Vietnamese people affected with toxic chemicals accounted for 15-20 per cent of the population (about 4.8 million people) (Dwernychuka et al., 2002). Other estimates placed the number of children in 2004 affected by birth defects attributable to Agent Orange at 130,000. Clearly this was a major problem both from a humanitarian perspective and to a developing economy.

Despite reaching an out of court settlement with American veterans affected by Agent Orange, the US Government has not provided any assistance to mitigate the impacts of Agent Orange on the Vietnamese; in 2004 the Vietnam Association for Victims of Agent Orange/Dioxin began a class action against the US chemical companies that manufactured Agent Orange in an attempt to gain compensation for their injuries (Radio Voice of Vietnam, 2004) which was ultimately unsuccessful (United States District Court, 2004).

Even if there has been no substantial US or Australian government response to calls for remediation of the impact of Agent Orange on the people and the environment of Vietnam there have been many different responses by individuals and NGOs. The Vietnam Friendship Village was one response to this situation. It was funded by donations from the international veterans' associations in France, Germany, America, Japan, Canada

and the United Kingdom. It provides accommodation and food for about 120 disabled children and respite care for about 30 veterans. While the number of people being cared for is very small compared to the size of the problem the VFV is unique because of the level of engagement by retired military personnel from both sides of the conflict.

NARRATIVE 2 – VETERANS, INFORMATION AND GUILT

Much of my research about the role of the international veterans in the VFV and other NGOs, occurred across the road from our apartment in Lo Su Street in the R & R Bar, run by an US expat called Jay who was married to a Vietnamese woman.

The R & R Bar was an expat hangout, largely frequented by 30-60 year old males. However, unlike other Hanoi expat pubs such as *Relax* and the *Spotted Cow*, it was not a pickup joint for hookers or a serious swill hole catering for the fraternity style antics of the Hash House Harriers. The R & R was a traditional male pub, a place of mateship, convivial drinking, eating and a slightly dingy Western oasis in the middle of the hustle and bustle of Hanoi. On Friday night, Jay would team up with four Vietnamese musicians and play rock and roll. Surprisingly on Thursday night, four Vietnamese musicians from the Hanoi Conservatory of Music would gather as a string quartet playing a range of music from baroque through to Gershwin.

Amongst the R & R regulars, I got to know a number of ex-Vietnam veterans, mostly US but a few Australians who were running their own NGOs or working at the VFV. Their motives and intentions for being involved in Vietnam were complex, but could be grouped into four areas.

The first was a desire to atone for being involved in a Big Transgression – they had taken part in war and killing that was contrary to something fundamental in human existence. Palmer talks about Western involvement in Vietnam “...harking back to the theological thesis of the Middle Ages which conceived a ‘moral’ or ‘just’ war as one in which the good outweighs the evil” (Palmer, 1984 p.190). Many of the veterans I talked to felt that they were on the side that did more evil than good.

From reading and viewing the media material prepared by the VFV’s international Western partners all of them seem to have approached the project as a consequence of an intensive soul-searching journey. George Miso⁵⁸, the major US founder of the VFV project who died in 2002, himself an Agent Orange victim, talked with great emotion and tiredness about “*Sometimes it gets really hard [to carry on the work]*” (Mugele & Niehaves, 2001). George started the VFV as part of his own pilgrimage to peace with the intention of constructing a “peace pagoda”, a symbol of his desire for a new relationship between the US people and the people of Vietnam. Over time the concept grew far beyond the idea of a pagoda and became a whole village or institution, devoted to the treatment of victims of Agent Orange.

⁵⁸ George Miso the founder of the VFV Project was particularly strong on this point, his famous quote was “it is not only wrong to kill in war, it is wrong to kill, period, punkt”

The second motivation was trying to come to terms with the feeling of being personally fractured. Carl Jung⁵⁹ talks about the role of the ego being to mediate between the outer and inner world, giving the individual the necessary sense of “self”, or identity, that enables us to function in the world. Jung’s idea is that we build this self out of past experiences, beliefs and choices. If something occurs where one of the fundamental building blocks of this “self” is challenged or refuted then the construction that we call “self” or the ego breaks down, and we do not function effectively in the outer world. And this is what seems to have happened in many of the US veteran and NGO workers in Vietnam. During the war something fundamental was challenged about the identification of “self” with “country”. A reoccurring theme in their discussions even 40 years after the event was “my country lied to us”. One of the Americans who had been in the Vietnam War with whom I shared more than a few beers, described the situation as “*after the Second World War, America saw itself as the saviour of the free world, and we believed that this was our role, given to us by God ... to fight against the scourge of godless global communism, it was on my second day in Vietnam I realised that this was a myth and our involvement in Vietnam was a lie*”. He had worked at the VFV, and was on the VFV Board, talked about having come to the VFV after living in the wilderness in Alaska for many years trying to come to terms with his “own personal demons”. He has spent six months in Poona, India, at the OSHO ashram doing a lot of psychotherapy that enabled him to resolve much of his inner torment. He commented “*most of the US veterans who are in Vietnam are here because they are guilty and are trying to work something out. But at the end of the day [after doing psychotherapy] I realised that my only crime was to believe what my country told me*”⁶⁰ (S. Jones, 2004).

The event that communicated the impact of this “lie” was watching a video of Jimmy Hendrix playing at Woodstock (Wadleigh, 1970), at one of the veteran’s houses, while the veterans were smoking large amounts of marijuana. They were almost crying when Hendrix played Star Spangled Banner that then segued into Purple Haze. Despite having seen that video dozens of times before, at that point I realised that there was something deeply cultural in the American psyche about their relationship to their national identity that Australians would never feel. We are a more sceptical people. Australians do not seem to have the same depth of belief about the connection between their personal identity and their country. The outcome of this fractured self was that many of the veterans were in Vietnam to try and recover something that they felt they had lost or left behind during the American war.

The third motivation for the veterans’ involvement was trying to touch and re-touch a level of existence literally at the edge of life and death that could not be found in the comfortable West. At a time when many of these men were embarking on the transition from youth to adulthood they were forced to encounter and in some cases, deliver, death. While it was a horror it brought a sense of aliveness. The darker side of this was that war gave them permission to behave despotically, to have cheap drink, drugs, sex and partying. Some of the Veterans longed for the return to this despotic adolescence that was provided by the American-Vietnam War. The cultural moralities of middle America, or Australia for that matter, felt stifling and restrictive for these veterans when they went back to their own countries and it was only in Vietnam that they could find this sense of being alive and, given that living was economically cheap in Vietnam, afford to live that way.

⁵⁹ Jung’s thinking has been well discussed in many places and in his own writing. His autobiography *Dreams, Memories and Reflections* (Jung, 1965) is a good starting point.

⁶⁰ Mr Suel Jones, ex-US Marine who served in the Demilitarized Zone in Vietnam then resident in Hanoi. Mr Jones is the International Representative on the Board of the VFV.

The forth and final motivation was the desire to do good, to contribute to the world and make it a better place and this is where I saw considerable nobility in many of the veterans in their NGO work. Some of the work may have been misguided or poorly deployed but in many cases the veterans' NGO work was making a significant contribution to the betterment of the Vietnamese communities in which they lived and worked.

In contrast to the international veterans, the Vietnamese staff and the members of the Board of the VFV were supportive of the peace initiative that underlies the VFV and are appreciative of the relationship with the international donors – but they do not have the soul searching and the angst of international donors. This may have been because, as was mentioned previously, the 1000 plus years of Vietnamese civilisation and numerous wars meant that the Vietnamese were adept at managing the changing winds of fortune, while the Westerners were always wanting to kick against the breeze.

NARRATIVE 3 – MEN, FAMILIES AND SOLDIERS IN VIETNAM

To understand the issues facing our project in the VFV it was important to try and understand Vietnamese culture and how this worked out at an organisational level in the VFV. The challenge we faced was trying to gather as much knowledge as quickly as possible so that it would assist with our acceptance by the group, in this case the people who worked and ran the VFV.

Jamison, (1995) ⁶¹ explains Vietnamese culture as a system of Yin and Yang elements. He considers that the Yin is the emotional, animistic, traditional, egalitarian village system; while the Yang is the value-laden, formalised, courtly, hierarchical Taoism, Buddhism and Confucianism systems. The history of Vietnam with its numerous invasions by China creates these two influences, the village system from traditional Vietnam, and the formal government structures from China. In his opinion much of Vietnamese culture can be seen as an oscillation between these two ideological poles. He lists eighteen characteristics that frame traditional Vietnamese values and institutions. Four of these have been selected to illustrate the management philosophy that underlay the VFV.

Reason (or fundamental order) – similar to the Taoist idea of the Tao or Way; that there is an underlying structure and order to the universe; things are in harmony when everything is in its rightful place. In the VFV there was the idea that how things were was how things were. It was inappropriate to challenge the established order of things. This made implementing change very difficult because many of the initiatives that we could see that could bring positive economic and social benefits for the children, e.g. creating an economic incentive by increasing the children's payment for piecework in the tailoring shop, trying to integrate the children into the activities of the surrounding villages; were seen by the management of the VFV as not fitting with how things were done.

Filial Piety – The family is the basic unit of society. Children must obey, honour and respect their parents. Age and position in the family is all important with respect and honour being passed up the family chain.

⁶¹ This section on Vietnamese cultural characteristics is a précis of (Vlastos, 1991). Where a direct quote has been made from (Jamison, 1995) it has been included in quotes.

The relationship between brothers is a model for society – older brothers (and sisters) teach, protect and nurture the younger brothers. Younger brothers respect, obey and support older brothers.⁶² Once again this made implementing change very difficult. Most of the senior management were older retired Vietnamese military men who were given deference and respect because of their position in society. Their authority was rarely challenged. Any policy or operational change that, in Western culture, could be driven upward from the operational level was not even considered as being worth raising by the junior staff because of this respect for authority.

Gender Roles – Women fulfil their roles as daughters, wives and mothers in a non-disruptive manner. Although the women do most of the work, men are considered to be dominant and women subservient. In traditional society the girls went to live in their husband's household and contribute to its economic well-being. This created pressure for families to “groom the girls for export”, and the boys' mothers to ingratiate themselves with their sons to ensure that they remained in the sons' affections (and economic support in their old age) against the intrusion of the new daughter-in-law.

Historically Vietnamese people were organised into tribal and clan groups, united under a Confucian elite and an emperor. Inter-group warfare occurred and in this context a man's role was to defend his village, clan group or country. Vietnamese history is full of stories about invasions by foreign forces being repelled by the courageous and charismatic leader, who was, in turn, rewarded for their efforts and was able to distribute the largesse of their victory to their group. The model for men therefore was the leader who provided and protected and was accorded wealth and position⁶³. In the VFV this meant that most of the work in caring for the children, supporting vocational training, education and income generation was generally done by the women staff who were very junior in the VFV hierarchy. It was these women, however, who were most open to the innovations that we were suggesting to improve the economic base of the organisation.

The Traditional Village – The village is a larger version of the family, guarded and protected by a guardian spirit. Village members are ranked according to a strict hierarchy. The village gave solidarity and support but created a highly competitive arena where prestige and rank, with the ensuring honour, were all important.

Success in life and economy enabled a person to distribute wealth lavishly at the festivals associated with the guardian spirit thereby ensuring that they would find favour with and prosperity from the guardian spirit. Consequently their family would rise in its position in village society. Accepting charity brought loss of face because it demonstrated an inability to contribute to the mutually supportive environment of a subsistence culture. Jamison describes this as “*The basic principle of redistribution ... from each according to his desire for face, to each according to his willingness to lose face*”. Having ready access to significant amounts of donor

⁶² This was particularly well demonstrated in the Vietnamese language which has four different words for uncle.

⁶³ There is a poignant story that is portrayed in Vietnamese army propaganda films based on an incident during the Battle of Dien Bien Phu where the men dismantled cannon and hauled them piece by piece up the mountains to overlook the French army encampment, then reassembled them to create a huge military advantage. The French had thought that such a feat was impossible so had not included it in their military strategy. While the Vietnamese men were hauling the cannon the women were reported to have given them food and sung to them to encourage them. As one Vietnamese woman said to me “*Our men are at their best when they are fighting*”. The subtext of her statement was that in her opinion Vietnamese men are lazy and domineering of women in peace time and it is the women who did all the work!

funding enabled the VAVN to build a lavish set of facilities at the VFV and thereby build “face”, unfortunately without the internal services and activities to match the external appearance of the structures.

NARRATIVE 4 – SOLDIERS IN VIETNAMESE SOCIETY

The role of the soldier in Vietnamese society is crucial to the understanding of the VFV, particularly as the Board of the VFV was made up of ex-military people. The idea of sacrificing for the greater good, and your country, is steeped into the Vietnamese soul. This is coupled with recognition that war is an art to be learned and improved upon by experience. In 1975 the North Vietnamese Chief of Staff, General Van Tien Dung, reflecting on the defeat of the USA, stated *“moreover we must absolutely avoid all thoughts of our personal importance or position. This victory belongs to our party, to our great president Ho Chi Minh, to all our people and our heroic fighters, and to the martyrs who sacrificed their lives for the Fatherland. ... The strength of this total victory is the strength of the whole country, every person and every family, the strength of patriotism to the socialist idealism”* (Pratt, 1984 p.642).

In the Hanoi Museum of Fine Art you can walk through four floors of Vietnamese art from prehistoric times up to the contemporary. By far the largest part of the exhibition space is given over to the art produced during the 25-year period of the war of independence against the French then the American-Vietnam War. There is a huge contrast between the fine carving and ceramic work of the Cham period and the various Chinese and Buddhist dynasties that ruled Vietnam, and the art from the recent 25-year war period. The old, historic art has strong religious and social elements with, at times, humorous and whimsical sub-motives showing domestic life, chickens fighting, people drinking, and courtiers in procession. The art of the war period has a haunting pathos about it, with no sense of triumphalism. It shows pictures of people trying to live life in the presence of war – pictures of soldiers helping with harvests, children farewelling people going to war, industrialisation and building infrastructure. But there are few if any pictures of historic victors. This is also reflected in public language of the Vietnamese. Despite the considerable destruction that has been wrought on the country by the USA, the Vietnamese, in general, and the staff at the VFV, at the least appear to take a pragmatic view of the post-war situation and are more interested in seeking resources to get on with their lives, rather than holding an ideological position that may cut them off from particular partners.⁶⁴ At best it appears that the Vietnamese have a great capability to forgive, a lesson that could be learned by many other nations.

In Vietnamese culture the role of the soldier is important, sacrificial and full of high ideals. This has to be set against the cultural context, as described by Jamison, of a man’s role in a feudal village with all the requirements to bring in resources for the family, build face, and raise prestige. These two do not sit easily with each other and predicated a classic Vietnamese resolution of two opposites.

⁶⁴ Much of the language used by the Vietnamese about the America-Vietnam War is one of respectful requests for rights and an appeal to moral frameworks. This attitude was demonstrated in a talk on Radio Voice of Vietnam, August 10, 2004 where the comment was made, about the necessity of the US addressing the impact of Agent Orange on the Vietnamese, “ [by the US taking responsibility for its actions] *we can bring equity and a moral resolution to the Agent Orange victims of Vietnam and of the wars waged by the US*”. This was further highlighted by a discussion I had with a Vietnamese veteran who said “for America Vietnam is a war, for the Vietnamese Vietnam is a country”.

NARRATIVE 5 – KIDS AND VICTIMS

The VFV was a very impressive construction with eight major two and three storey accommodation buildings and a new vocational training centre⁶⁵. It provided long-term accommodation for about 120 disabled children between the ages of 10 – 24 and respite care for about 30 Vietnamese veterans. The institution also has a clinic, however Western drugs are in short supply and expensive so much of the treatment was using traditional herbal medicines.

Most of the children were from poor farming communities in the north of Vietnam in the provinces. The VFV did not have the funds for medical screening for dioxin and rely on a referral and assessment process through the Communist party representatives in the regions. The assumption was made that if a child has parents who were in areas where Agent Orange had been used or dumped, they had characteristics typical of Agent Orange victims, and the family was unable to support them; then they were eligible to enter the VFV.

In its publicity the VFV aimed to give shelter, nutritional support, medical care, schooling and vocational training to the children who enter its care. While the staff tried to make the VFV a very loving and caring environment the children's opinion is that the experience could be better. Most commonly they say that they want to be loved and feel that there is a tender appreciation of them as people and human beings. They also miss their families and mostly wish to go home permanently or at least have a chance to go home once a year. The exceptions to this were a few of the more severely disfigured children who did not have homes and, for them, the outside world viewed them as freaks, consequently staying in the Village represented a more friendly supportive option than the outside world.

Almost uniformly the children hated being photographed as freaks and having their identity defined by Agent Orange. Because the VFV had such international standing, particularly within the military / veterans network, and was close to the centre of Hanoi, it was regularly visited by international and national media. The need for on-going financial support motivated the directors to "show" the children to highlight the work that they were doing.

For most of the children their aspiration was to be able to take their place in society, to be viewed as equals, to be able to go to school and learn, have a job, earn money and contribute to their families. But generally they felt inferior, they felt they had to keep a distance from people and not be too trusting of people external to the Village.

The children did not really understand what was going on in the Village, how it was run or where the Village or their own personal development was going. They felt that there were insufficient warm clothes in winter and the food was poor. They were respectful of the directors but did not know what they did. The children only knew they had to be available when required by the directors. The Mothers were loved and respected by the children, however they felt that the Mothers did not understand that they were people with aspirations for the future. They also appreciated the Vietnamese and international people who volunteered at the Village as they represented something of the bigger world outside the Village.

⁶⁵ For this section I am deeply indebted to Ms Nguyen Ha Phuong who worked as a volunteer at the village and who provided extensive insights into the internal operation of the Friendship Village and Vietnamese culture and was able to pass on information from candid conversations with the children in the village that would not have been available from the more formal channels through the administration of the VFV.

The children knew the value of schooling and wanted to go to the local school but there was no money available to pay the school fees. The education provided at the Village was not the same as outside in the “real world” so they felt discouraged from learning. Similarly the vocational training that was provided was initially seen as interesting, and after a while they felt obliged to attend because it was one of the places where the Village made some money.

NARRATIVE 6 – THE STORY OF THE TWO TRANSLATORS

Our placement in the VFV had been organised by the international veterans network that supported the VFV and they provided two translators to work with us, H and T⁶⁶. Both H and T were in their early 20s and about to graduate from the Vietnam International Business University. They had both previously worked as volunteers at the Village and had been supporting some of the business enterprises that the VFV was trying to develop. After getting to know H and T very well it became apparent that H and T presented two very different perspectives on the VFV and Vietnam as a whole.

T’s ancestors were Chinese who had come to Vietnam a number of centuries previously and, prior to the communist take over of Vietnam, had been part of the mandarin⁶⁷ class and had been owners of several city blocks in the middle of Hanoi⁶⁸. Over the past 100 years T’s family had included major literary figures, university professors, and business people who had travelled the world and were internationally recognised for their contribution to Vietnamese and international education, the arts and business. Some members of the family also converted to Catholicism in the early 20th Century. During the American-Vietnam War some of the family members migrated to the US and Australia and continued to prosper. For those that stayed in Hanoi there was a very significant change and considerable hardship. Much of their real estate was taken by the communist government and allocated to others; the family were harassed by the government and lost considerable opportunities for employment and position in society.

While T had been to university, there was also an underlying feeling that their family had lost a lot and that much of the time the family was looking back to a golden age in the past. On some occasions when we were discussing some of the problems of the VFV T would comment “those Vietnamese don’t know how to do things and are just lazy”; even though T’s family had been in Vietnam for hundreds of years they still saw themselves as a better class than the Vietnamese population. In many ways T represented more of Jamison’s yang system – traditional, courtly and hierarchical.

Our other translator H was a very different person. Their family had been peasants living in the provinces. H described, with considerable nostalgia, having been able to run bare footed through the family farm and the countryside as a child leading a gang of kids on fruit stealing raids on neighbouring landowners. And in the space of 15 or 20 years the family had gone from living a peasant, village life to being a sophisticated city people.

⁶⁶ This abbreviation is to respect their request for privacy

⁶⁷ At various times throughout Vietnam’s history the Chinese had invaded and ruled Vietnam. While Vietnam is distinctly different to China, much of the pre-revolution social and administrative structures reflected the Confucian-based Chinese style of administration.

⁶⁸ With the current development boom in Vietnam real estate an up-market apartment in the middle of Hanoi in 2004 was typically priced at \$US 1000+/m²

When H's father was young he was identified by the Communist party as being bright, highly intelligent and a quick learner. He received considerable patronage up through the party and now was in upper, middle management in one of the major State-owned construction companies. H's family now lived in a very comfortable, modern house in one of the good areas in Hanoi. H's brothers were engineers also in State-owned companies that were in the process of restructuring to integrate into the global economy.

H and T represented the face of old and new Vietnam. They mirrored changes in the larger community. When the communists came to power they introduced a command economy, as was typical of many other CMEA countries⁶⁹ characterised by Marx's dictum "From each according to his ability, to each according to his need." The key features of this economic model were cooperation, collectivisation, an agricultural and industrial economic base, public ownership of property, equality, centralised planning, five-year planning. In practice this meant that there was strong control of the economy, the wishes of the individual were subordinate to the collective given that the "best interests" of society are of principal importance; and there will be some level of "shared" minimum standards attained. Wealthy, influential families, like T's, lost a considerable amount in this process.

As history has shown, the communist command economies have generally been abandoned in favour of market-based economies. In Vietnam this process was called Doi Moi (literally *change* and *newness*) (Mya & Tan, 1993 p.2). Doi Moi began in 1986 and has been described as "a transition from the centrally planned, Stalinist command economy to a market economy with socialist direction," what is often referred to as "market socialism". Doi Moi favours gradual change, political stability and economic restructuring to come before privatisation. It sought to avoid the Eastern European model of radical change and to dismantle the old elements of the command economy. It aimed for decentralisation; market-orientated controls, strong emphasis on external economic relations, market orientation in agriculture and using private enterprise as the key engine to drive the economy. H's family has prospered under the communist system and now it is likely that they will continue to be part of the process that drives the new Vietnam.

The VFV represented a microcosm of Vietnam; it is run with considerable amounts of old style communist economic values coupled with traditional Vietnamese cultural values. And it was desperately in need of its own version of Doi Moi. In our coming to the VFV we represented something of the thinking that was enshrined in Doi Moi, however our capability to implement any change was extremely limited. While the Vietnamese Government was committed to change at a policy level, at a practical level in the VFV old habits were very difficult to change.

The difference between H and T was that H was able to provide us with a greater level of entry into Vietnamese society and assist us with the transition from outsider to insider. Under her tutorage we became part, in a limited sense, of the social fabric of the VFV and the wider Hanoian society.

⁶⁹ *Comecon* (the Council for Mutual Economic Assistance), 1949–1991, an economic organisation under the leadership of the Soviet Union that comprised the countries of the Eastern Bloc along with a number of socialist states elsewhere in the world including Cuba, China, Poland, Yugoslavia, Hungary, Czechoslovakia, North Korea

MERGING NARRATIVES

In this section I will attempt to pull these narratives together into themes to demonstrate how the wicked problem of the kids who were victims of Agent Orange developed and how we, with hindsight, could have addressed these themes and probably would have been a lot more successful much earlier in the project.

Corrupt or not?

One of the Western expatriates⁷⁰, who had lived in Vietnam through the American War years and on-and-off over the previous 25 years, and I were discussing what would be referred to in the West as “corruption”. I was questioning whether Vietnamese society was corrupt. His reply was that in the context of a feudal society and the higher priority of “face” over anything else what the West saw as corruption could generally be viewed in traditional Vietnamese culture as a means of redistributing wealth. He spoke of the metaphor used by Vietnamese men: “I have to feed my army”, indicating a priority of maintaining the family, village, and clan obligation network, over the allegiance to external agencies. He also spoke of the impact of the war on Vietnamese families. There was the feeling in Vietnamese society that if your family had lost members to the war effort then a family had a “right” to take back from society (the government) something to offset the loss of that family member. The “taking back” from society included patronage for jobs, informal taxation and relocation of infrastructure, and meshed well with the background of the imperative to build face and “feed the army”. While there was recognition in Vietnam that this was the normal way that life operates, there was however considerable societal discussion about individuals and families who “took more than they were worth”. This was a major source of friction within families and communities and surfaced within the VFV. In the VFV these factors worked out in different ways in which, unfortunately, mostly seemed to work against the wellbeing of the residents. If we had recognised and been able to integrate our efforts into the balance between the “overt corruption” of the gatekeeper and the “rightful redistribution of wealth” of the Directors then we probably would have been more effective.

Information and Control

At an organisational level the Directors were generally intent on keeping the flow of information to a minimum because by controlling the flow of information they were able to maintain their place at the centre of power and distribution of resources. This worked against the rapid improvement of the quality of the VFV. Even the simplest decisions such as “could the embroidery business⁷¹ buy more materials?”, required the approval of the Director of the whole VFV organisation. While the Director was interested and supportive of improving business enterprise he was too busy to make all the decisions and his decisions were not necessarily in the interests of the residents of the Village. To delegate decision making as we, and most people involved in management would recommend to improve business efficiency, would have reduced his role in the organisation, meaning a loss of control and providing an opportunity for someone else to move into his turf. As one of the VFV Mothers⁷² rather candidly said when we were discussing developing the Village’s handicraft business “*the Director does not want it (the business enterprises) to be too successful because if it makes too much money someone else from the military*

⁷⁰ Mr Dan Rocovits, Director of World Village Foundation, a NGO specialising in providing facilitation skills for development projects

⁷¹ One of the few existing business enterprises in the VFV that returned a profit

⁷² The female helpers and house parents who looked after the disabled children were called “Mothers”

will want his job". The challenge for us was to find a way to help build businesses that were economically small and diffuse enough and fly below the radar of the local powerbrokers that would give the Director the confidence to allow them to continue without threatening his position.

Patronage

Some of the children required corrective surgery, for which there were donor funds available, but this could not occur because the Directors did not have the personal linkages into major Hanoi hospital where such surgery could occur. The referral system into the hospital required the "right" person to be known in the hospital administration, rather than the formal, impartial process more familiar in the West. While this seems to be unjust it was probably only a more extreme version of the medical experience in Australia where there is often a discussion about "can my doctor get me into see a particular specialist who is considered to be the best available or does my doctor only have access to average specialists". With this insight we, with our national and international linkages may have been able to build the connections that the Directors could have used to help their children receive the necessary surgery.

Face

The local military command donated a new, very expensive, gatehouse and entry arch with electric, remote control gates. At the same time there was no money available to renovate the Village's fishponds from which the residents could be fed. To the officers of the local military command building "face" by constructing a highly visible, imposing entry statement was more important than the ongoing feeding of the residents. When this dichotomy was discussed with the directors of the VFV the suggestion that they could tell the military command that funds could be deployed in a more prosaic but more useful way was seen as being offensive to the important people in the regional community. By keeping my mouth shut and vociferously admiring the gatehouse at the appropriate moment I could have built rapport much more quickly with the Directors. I will be forever grateful to my translator who, as she told me later "softened" my questions, so that the Directors did not take too much offense at my obvious lack of appreciation of the gate.

Power

Although the project was successful it could have moved a lot more quickly. When it became apparent that there was a lack of progress on the project I was discussing the situation with one of our translators. She said, "Have you talked to the gate keeper?" I said I had not, and why should I do this? She indicated that because the gatekeeper was the local communist party representative, and in that position he had considerable power, beyond that of the directors, particularly in matters of day-to-day organisation. He was also one of the most corrupt people and, apparently, was helping himself to significant rewards well in excess of what others could access. Working as a gatekeeper was metaphorically a perfect description of his role and led him to be one of the most important people in the staff who held the wellbeing of many people under his control.

SUMMARY – IN HINDSIGHT

In these circumstances it was difficult as a short-term visitor to understand what was happening. Within my framework I could see so many easy things that would have made given considerable improvement in the life of the children and people in the Village. Understanding where the VFV sat in Vietnamese culture helped explain why things were like they were, but when compared with my moral framework what was occurring still felt “wrong”. It was a quintessential wicked problem in the face of which I felt powerless and I was changed by that experience. Reconciling this feeling of “wrongness” required a lot of reflection and it was when I realised that many narratives were converging with my personal experience that I began to see a way forwards. This, in turn, brought into question why I was there and what I was hoping to achieve. The next chapter is an exploration of this question and looks at how and why a sustainability designer should intervene in a particular circumstance.

Chapter 7 – Intervention

In this chapter we will look at things that affect when, how and why a sustainability designer should intervene in a particular circumstance. This is important because there is no end of examples where within the Modernist paradigm intervention is not even questioned and consequently wicked problems have been created or exacerbated. The chapter looks at four broad issues associated with intervention – the willingness to be changed, the morality of intervention, the question of *insiders* versus *outsiders*, and the capacity to intervene. It then extends the case study from the previous chapter and presented as an illustration, also from Vietnam, of a positive example of an intervention. Using an economically developing country is important because the issues around intervention in a trans-national, cross-cultural situation are generally more confronting to a practitioner and the more extreme circumstance makes it therefore easier to examine the presuppositions brought to the design process and to elaborate upon them. In this case study it is important to recognise the main themes but then apply them to the more modest expectations of the day-to-day work of a sustainability designer.

WILLINGNESS TO BE CHANGED

The most challenging thing to emerge from this study was the question of willingness to change. It links back to Ricoeur's idea of self-identify as part of a greater narrative, the ongoing interplay between the self and the other in space and time, and how our identity is changed by this interplay. In psychotherapeutic terminology the willingness to be changed is sometimes constructed around whether an individual has an external, or internal locus of control (Erickson, 1983; Lefcourt, 1976; Leung, 2009). If an individual has an external locus of control they need on going affirmation from external sources that they are a good person, and it is very likely that they will seek to manipulate their external circumstances to get this feedback. An example of this can be seen in environmental activists who appear joyous about eco-disasters because it gives them an opportunity to show that they were "right". A person who has an internal locus of control has their sense of personal wellbeing separated from external circumstances. This is not the bloody-minded – "I know what I'm about and don't give a #\$\$% what anybody else thinks" which is, in reality, purely a belligerent reflex of someone who is still looking outside themselves for their sense of wellbeing. Rather it is someone who has a grounded sense of self-awareness and knows what makes them who they are and they are open to change, as Ricoeur states "the assurance of being oneself acting and suffering" It is only in this way that the optimal interventions will be found. The corollary of this is that if a designer is open to change then they will learn from each situation and become better at what they do.

THE MORALITY OF INTERVENTION

As the previous chapter illustrates, the sustainability designer will always be working within competing value and moral frameworks. The fundamental question is: is there a higher morality that will guide an intervention and make it a correct action? As has been discussed earlier Ricoeur does not see that there is one higher morality, rather that there is an ongoing work to define our operational ethics. He says "*It is therefore, by convention, that*

I reserve the term 'ethics' for the aim of an accomplished life and the term 'morality' for the articulation of this aim in norms characterized at once by the claim to universality and by the effect of constraint.... I propose to establish ... (1) the primacy of ethics over morality, (2) the necessity for the ethical aim to pass through the sieve of the norm, and (3) the legitimacy of recourse by the norm to the aim whenever the norm leads to impasses in practice ... " (Ricoeur, 1992 p.170). It is this tension between points (2) and (3) which defines the work of a sustainability designer. This is illustrated in a discussion of "humanitarianism" in the work of Medecins Sans Frontières⁷³. Dr Rony Brauman⁷⁴ talks about three principles of humanitarian action: impartiality, neutrality and independence and suggests that *"these have come under attack as not being viable for governing humanitarian action... in view of the so-called just wars of the past few years"* (Barry & Brauman, 2004). Brauman identifies three different types of international response to national crises that are sometimes referred to as "humanitarian":

- Armed intervention often referred to as "humanitarian intervention"
- Massive involvement by the international community in the field of aid in general, but not (actually) humanitarian aid
- No international response, which is in itself a political response

After considerable reflection about its involvement in a number of crises, including the decision by MSF to withdraw from some situations where its aid was used by one of the combatant parties to further conflicts, Brauman reaffirms that it was important that the humanitarian action be *"independent of politics—as a necessary condition for neutrality ... and as an absolute condition for impartiality"*.

This may give some guidance for extreme situations but the sustainability designer it is more likely to encounter less immediate but more complex moral issues extending to include ecological, economic and cultural considerations. More often than not the moral issues will be complex, messy and difficult. Some general principles from Ricoeur's idea of *aiming for the good life and passing the ethical aim thru the sieve of the norm* can help. Firstly it is important that the moral issues (including ecological, economic and cultural) around an intervention are discussed and debated as often projects are launched without reflection on their meaning or implication. Secondly, in the context of this discussion and debate, positions may change as circumstances change but despite changing circumstances the debate will have to continually refer back to big ethical values avoiding relativism or utilitarianism. Thirdly, simplification back to one major moral value, as MSF chooses to do, is unlikely to be an option that is often available for a sustainability designer but there is still value in being able to draw a *raison d'être* or source of strength from entering the moral discourse and being able to speak on the morality of actions. Finally, while the immense worth of the work of MSF is recognised, its work has been challenged for not bringing about long-term change. The corollary of this is if one of the sectors of sustainability, e.g. economics, environment or culture, is emphasized exclusively it is likely that the outcome will be less than optimal.

⁷³ While a cultural/economic/political example is used here by selecting MSF there are other examples that could be used, for example Simon Dalby discusses the right to intervene in the situation of ecological crisis.

⁷⁴ Dr Brauman joined MSF in 1978 and was its president from 1982 – 1992, he wrote and spoke extensively on the right of intervention in international conflicts including contributions to MSF's *Populations in Danger* series, *In the Shadow of "Just Wars"*, and the Carnegie Corporation's *Human Rights in Dialogue*

INSIDERS – OUTSIDERS

The term “insider – outsider” has grown up in a number of different discourses including international development, anthropology, sociology, education, and health and reflects Ricoeur’s examination of self and the relationship between the self and the other. It also affects where the designers position themselves in relation to the project being undertaken. Various descriptions are available. Lindbeck and Snower apply it to labour: *The insider-outsider theory is concerned with the conflict of interest between insiders and outsiders in the labor market. “Insiders” are incumbent employees whose positions are protected by labour turnover costs. “Outsiders” enjoy no such protection; they could be unemployed or working in the informal, competitive sectors of the labour market (Lindbeck & Snower, 2002 p.1).*

It is also very prominent in public health. The report of the Nuffield Council on Bioethics starts with the statement: *“Whose job is it to ensure that we led a healthy life?’ Who should help us not to eat or drink too much, to take exercise, and to protect our children and ourselves against disease? Is it entirely up to us as individuals to choose how to led our lives, or does the state also have a role to play? Two typical, and contradictory, responses are ‘We don’t want the nanny state interfering with our lives’ and ‘The Government should do more to curb drunkenness amongst young people” (Nuffield Council on Bioethics, 2007 p.1).*

The insider / outsider debate is also intimate to social research (Gerrard,1995 p.59; Crocker, 2004a; Crocker, 1991). Breen states insider-researchers are often intimately engaged with their research domains and, unlike outside-researchers, would rarely be described as those who *“parachute into people’s lives... and then vanish”* (Breen, 2007). Despite the researcher’s best intentions, ‘parachuting’ often occurs because of the demands of academic pressures. Drew referred to these researchers as seagulls: *“...a ‘seagull’ is a researcher or consultant who flies into a community; squawks a lot, craps all over everything then leaves the community to tidy up the mess” (Drew, 2006 p.40).*

Crocker applies the idea to international development. He says: *“Is cross-cultural communication and criticism possible? This question is important ... since, if such cross-cultural practice is not possible then development ethics, which applies ethical reflection to the ends and means of development could only be used by citizens to think critically about their country’s development goals and strategies. By contrast, if cross cultural communication is possible everyone – citizens of a nation, as well as its allies, friends and foes – can understand and evaluate social change” (Crocker, 2004 p.1)*⁷⁵.

The essence of the insider/outsider debate is: “does someone who is external to a situation have the right to intervene and impose his or her views/values/solutions on a particular circumstance?” as a well-intentioned intervention may be totally inappropriate without due recognition of local circumstances. Two broad positions are suggested by Crocker and others (Mosse, 2004; Siebers, 1993): the ethnocentrist⁷⁶ and anti-ethnocentrist positions. Ethnocentrists use their own value system and norms to analyse a particular situation, develop and apply solutions. Anti-ethnocentrists oppose this view and, in the extreme, consider that no interventions should

⁷⁵ Crocker’s analysis is applied particularly to international development ethics and the role of development ethicists, however the underlying principles he discusses are relevant to a sustainability designer and used to frame the case study.

⁷⁶ Having one’s locus of control determined by their own ethnic group

be made because ethnocentrism imposes upon local circumstances and values, and local people and communities should be able to determine their own destinies free from interference (Alred, Byram, & Fleming, 2003; Siebers, 1993).

Crocker identifies three sub-groups in the anti-ethnocentrist position. Firstly the *particularist* position where for moral and nationalistic reasons each society has the right to determine its own path and intervention by another society in another is not permissible. The problem with this position is that it discounts the possibility that contributions can be made from outside a society, and assumes that any one society is free of deficiencies. Secondly, the *universalist position* where an intervention is carried out only when there is a universal Truth that transcends culture and rational assessments can identify where development should occur. This position has the limitation that it is very difficult, if not impossible, to decide what is the universal Truth and the risk that fundamentalist groups are able to claim their position as the universal Truth. The third position is to reject anti-ethnocentrism and assume that if we have a culture that is desired by other cultures then ours is superior and should be exported or even imposed. The problem with this is that it blinds us to a critique of our own culture and even though there are things in our culture that are highly desirable to other cultures it does not mean that all of our culture is desired or that this demonstrates a superiority.

In response to these positions and their limitations Crocker rephrases the discussion in terms of *social insiders* and *social outsiders*, which has some analogies to Ricoeur's discussion about the self having identify as part of an unfolding narrative and with others. For Crocker this *social* dimension to the insider-outsider debate hinges around whether a person is accepted by the group, with all its values and differing levels of flexibility, irrespective of where they originate. For example, an Asian village woman may marry a Western, city-orientated man, and both of them successfully use their relationship to give the woman entry to a city life and the man to a village life. Within this context Crocker sees identifies the strengths of holding both an insider and outsider positions. Breen has a similar idea and talks about a continuum between these positions (Breen, 2007 p.163). For Crocker the strengths of an insider position are firstly an insider can understand the values, ideals and vocabulary of a community providing insights into the context of interventions, secondly moral judgements made about a culture by the insider are accessible and reviewable by the community and finally being an insider gives a person a right to criticize the culture

Crocker also points out the limitations of being an insider: *Insiders face a final limitation and related risk. To be an insider is to live in the midst of loyalties, debts, favors, obligation, promises — things which the insider owes to others and which she is owed. Such debts may be compromising or corrupting. Although group membership might give one the right to criticize and propose alternatives, loyalties and debts to co-members may inhibit the exercise of responsibilities. In such cases the temptation may be too great; it may be too much to expect insiders to be sufficiently and properly impartial. In contrast, the outsider may be able to say what the group needs to hear, but none of the members dare say* (Crocker, 2006 p33).

Crocker identifies three benefits of the outsider position, particularly when they are invited to contribute to a particular group or community. Firstly, they can see what is hidden from an insider group because of their own

values, and prejudices. Secondly, they can inject new ideas, values and technologies, and thirdly, they can become advocates for a particular group to the wider world that an outsider can access, which may not be accessible to a particular group. Despite this there are the risks that, being an outsider and hence often seen as an “expert”, they will give in to hubris and believe that they hold the solution for all circumstances.

Out of these two positions Crocker proposes a hybrid model where there “...should be insider-outsider hybrids... (where a person) ... who is not a member of a given group can still be an insider in the sense that he can immerse himself in this new, and different form of life, grasp some of what is going on, and be accepted as dialogue partners. At the same time, ...(they)... should retain and take advantage of their outsider status in order to reflect an “alien” culture back to its insiders, call attention to the omnipresent obvious by contrasting it with their different experience, bring in new ideas, mediate between various factions, help the vulnerable gain a voice, and speak the truth made elusive by group loyalties.

As they retain such aspects of their outsider status, ... (the development worker) should not deceive herself or mislead others by pretending to ascend to what is an impossible standpoint: a view of the inside from an ahistorical, transcendent, objective outside. (To assume that this is possible) ... breeds both dominance on the part of those who think they have the Truth and servility on the part of those who long for it” (Crocker, 2004 p.6).

It is this hybrid model of resolution of the insider-outsider discussion that provides direction on the interventions available to a sustainability designer.

CAPACITY TO INTERVENE

For the sustainability designer the capability to intervene is, under normal circumstances, dictated by their access to information and resources and the capacity to work with interested parties on the project at hand. There are however outlying positions – ultimate power and no power that also need investigation. These are discussed below.

Capacity to intervene – normal situations

The capacity to intervene is also determined by the requirement for some form of request for the intervention. This request can take many forms and come from different sources however if, ultimately, the insiders do not want outsider intervention or they do not want to change “from within” as would be required from typical insider driven change, then irrespective of the capability of the designer no intervention will work.

Once this issue has been resolved the capacity to intervene would seem to be a relatively simple matter of matching skills and needs. The reality is more complex and raises the questions of what information sources, networks and resources a designer can bring to a specific circumstance. A sustainability designer can be described as the ultimate generalist who can see networks, patterns and linkages to bring about change. They also have the capacity to not do what has been done before and to reconstruct and reconfigure long-held arrangements and systems.

Capacity to intervene – Outliers

Up to this point the discussion has been based in the assumption that a designer will be able to intervene in a moderate circumstance, where they have to work in shades of grey and weigh up one factor against another. There are outlying conditions generally defined by power relationships where the designer will have almost ultimate power, for example where a mandate has been given by government to act; or they have no power at all. These two positions are discussed below.

The temptation of ultimate power – When the designer is apparently backed by ultimate power, for example a government directive, it is tempting to slip into the Modernist framework and impose what we think is best on a situation. Generally the result of giving into this temptation is furthering wicked problems. The question of intervention becomes more complex and requires balancing individual freedoms against the collective good and assumptions about human, ecological or cultural wellbeing. In these contexts the intervention can choose to do the minimum within a “hierarchy of intrusiveness”, which is:

- *Do nothing or simply monitor the current situation*
- *Provide information*
- *Enable choice*
- *Guide choices through changing the default policy*
- *Guide choices through incentives*
- *Guide choice through disincentives*
- *Restrict choice*
- *Eliminate choice (Nuffield Council on Bioethics, 2007 p.21).*

For the sustainability designer the general approach would need to be to keep the level of intrusiveness of intervention as low as possible to achieve the desired outcome.

Managing the extreme self-interest – There is the opposite extreme – “What does a designer do when they encounter the people motivated by extreme self interest?” When an individual or group are behaving with such extreme self-interest they do not care about anything else other than their own interests and are prepared to “fiddle as Rome burns”. Some general comments can be made about this situation. One approach is to just walk away and wait until things change, and in certain circumstances this is the best option. A second option is to try and strategically change the context of such they no longer can benefit from their self-interest. A hypothetical example given by Dalby provides a demonstration of how a group of island states impacted by rising sea levels resulting from global warming could use direct action through sit-ins on Canadian bridges to point out to Canada that it should not continue to mine oil shale. Another response to extreme self-interest is to appeal to a higher authority, which is feasible in the context of reasonably governed societies. In this situation court cases, legislation, civil authority can help control, to a certain extent, such people. In the case where those in control the authorities demonstrate extreme self-interest, as is discussed in the case study below, this option is difficult if not impossible to apply or alternatively takes a long time to bring about change.

As indicated in the previous chapter my wife and I worked on development projects in Vietnam in 2004 and 2006. The first was Lang Huu Nghi or the Vietnam Friendship Village (VFV), located 18 km outside Hanoi as was discussed in the previous chapter. The second of these was a World Village Foundation⁷⁷ program working on an Internet-based "Poverty Project". These two examples allow the exploration of the question of intervention for a sustainability designer. Each of these case studies is presented below with the lessons about intervention drawn from the stories. These studies also draw on the framing narratives described in the previous chapter.

CASE STUDY 1 – VIETNAM FRIENDSHIP VILLAGE

The Veterans Association of Vietnam (VAVN) ran the VFV. The Board of the VFV was made up of members of the VAVN, and one international representative representing the donors. Approximately 80% of the funding for the infrastructure and operations came from international veteran's organisations and private individuals, approximately 20% of the income was provided by the Vietnamese Government and is used mainly for feeding the residents of the Village. This structure was an intentional decision by the international veterans organisations to try and avoid power relationships between themselves and the Vietnam veterans. While this was a good and noble intention and fitted international development theory⁷⁸ (Dalby, 2007) in reality, as can be seen from the converging narratives described in the previous chapter, this relationship created significant impediments to the economic development of the Village.

Unlike many development projects the VFV was well resourced; the international veterans' network was wealthy and poured money into building a very strong and impressive facility. However by the early 2000s the capability of the donors to keep on giving was showing signs of decreasing. Fundraisers were reporting that there was considerable evidence of "donor fatigue". Many of the donors were ex-Vietnam veterans and, as they aged and died, there were fewer people to give or raise funds. In the USA, particularly attention also turning away from the American activities in Vietnam to the impact of other wars in which America had been involved, such as Iraq, and other areas of need. In addition, in 2004 there was a major but ultimately unsuccessful court case in the USA brought by Vietnamese victims of Agent Orange against companies that manufactured Agent Orange. The image that a court settlement may result in pay-outs to Vietnam was appearing to encourage donors to think that the issues associated with Vietnam and Agent Orange would be attended to sooner or later, so their attention could be turned elsewhere (VFV, 2004)⁷⁹. Consequently, in the opinion of the International Veterans Associations that were supporting the VFV there was a 5-year window⁸⁰ in which to change the economic base of the VFV from being donor-supported to economically self-sufficient. In this context my wife and I were invited by the international donors to work with the VFV to move the organisation onto a more economically sustainable footing. This partial invitation, from the international donors, but not from the local VFVN, later provoked significant issues.

Superficially the project description was firstly how to move the VFV from being a donor-supported provider of institutional care; to creating a facility that supported the children to become independent, and how to fund the

⁷⁷ A US based NGO working in Vietnam

⁷⁸ Such as empowerment of the poor, removing inequities in decision making between the donor and the recipient

⁷⁹ This was reported in personal discussions between an American member of the VFV Board and myself

⁸⁰ This estimation was based on the typical age of the donors and projected forward to when a significant number of them may no longer be able or alive to give.

ongoing operation of the Village so that it became self-sustaining in the long term. Secondly it was about creating a physical activity program. There was nothing really new in this approach, and the theory has been well articulated over the past decades in development work – moving from a donor driven development model into a community development model (Chaudhry & Owen, 2005; Wong, 2012). We faced the challenge of knowing how and where to intervene in the VFV and understanding how to work with the multiple narratives that were converging in our project. After a short time we recognised that in spite of significant challenges there were ways in which change could be facilitated. These are discussed below.

Building business enterprises – Starting with the embroidery project, one of the basic enterprises in the Village, we began to discuss with the children and the Mothers what they wanted to achieve and one of our translators summarised it as “they want to be able to think like capitalists”. We invented a program with the working title of “Capitalism 101” to identify their markets, look at quality, introduce some new product designs, conduct field visits to look at competitor operations, talk to people at the sales outlets, teach basic accounting and how to calculate production costs. Embroidery became a more productive enterprise⁸¹. While it seems easy to Western thinking, this intervention required that staff and children step outside their traditional village and familiar culture. It required trading cooperatively with people outside their network, to have a long-term view on investment, to show initiative and to challenge people in positions of power.

To achieve this we had to work below the level of attention of the Directors, while they were aware of what we were doing and why we were there. We did not attempt to engage in structural change to the way the VFV was operating trusting that the incentive of making an improved income coupled with a better self image would allow a grass roots project to develop that would become part of the VFV organisation without causing major or visible change. The metaphor that seems to best express this approach was “osmosis”.

Creating a sports program – The institutional nature of the village meant that there was very little for the children to do in the village. A group of English high-school students on a life awareness course⁸² were visiting the VFV and they were able to pool some funds to purchase sports equipment for a program to operate every afternoon. The children greeted this with great enthusiasm however the sports program did not continue after the first day. The gatekeeper from the guardhouse stored the equipment in his room and would not allow it to be used “because the children might break it”. Two things were operating here: firstly, the gatekeeper as the local Communist Party member, was using this as an opportunity to exercise his political muscle over the other staff, and secondly, it was more important to have new sports equipment to be shown to visitors as a demonstration of wealth and thereby gaining “face” than it was to have healthy kids. Eventually this situation was somewhat resolved by getting the Director to direct that the sports program should happen. Despite this as we were leaving it appeared that the sports program appeared to have evolved into a “mainly staff” sports program with the children watching the staff play with the equipment.

⁸¹ One of the most gratifying stories that was emailed to us was that the embroidery business was able to make a large sale US\$150 to a visiting veteran. The Mother and kids apparently sat around the table looking at the money for 2 hours, apparently they had not seen so much money before in their lives. Which is not surprising given that the average annual income in Vietnam was US\$650/year.

⁸² There were many visits to the VFV from international veterans' groups, international and national school and university groups who had heard of the VFV and wanted to visit and contribute. Unlike many development projects, accessing resources was not one of the VFV's issues.

Giving new models, ideas and structures – The donors, as had been stated previously were supporting the VFV for a range of reasons; some were constructive others, such as feeling guilty, were not helpful. The international veterans' networks and the Vietnamese veterans who were supporting the VFV tended to be conservative and not familiar with the ideas behind empowerment of the disabled, working with communities or extension work. Their model was to bring disabled people into an institution, provide them with loving care on an ongoing basis.

Having been in the Village as skilled professionals for an extended period of time we were able to give a more realistic picture of what was happening in the VFV to the international donor organisations. In the past the short visits by the donors were met by a series of “face” creating events put on by the Vietnamese staff⁸³. Our information went into the donors' discussions about the future of their support for the VFV and at the 2004 international donors' conference decisions were made to review how money was given and to investigate targeted funding linked to performance criteria. While some of what we presented was new to the donors our main role was to give shape, form and structure to what was already being felt intuitively by a significant number of donors.

Reflections on the Intervention – Willingness to be changed

When reflecting on the impact of Agent Orange and the enormity of the human tragedy and injustice of the American actions my wife and I faced a fundamental moral question – *How should we respond as individuals?* On the one hand we were, by our ancestry, linked back to the Australian involvement in Vietnam that was, at that time, in alliance with the USA so we could potentially be considered culpable in some way for the impact of Agent Orange. Although I had avoided conscription by being too young⁸⁴ and had been active as a high school student in the anti-Vietnam war movement, I still felt responsible for the actions of my country and considered that what went on in Vietnam was an affront to humanity. This sense of responsibility had to be tempered with the realisation that I had not been personally engaged in what occurred in Vietnam unlike a number of retired American and Australian veterans that we met. They were working there in response to their own personal needs for resolution, restoration and redemption. We also had to realise that we could only bring about change through applying technical skills, partly because of the short term nature of the project and also because we did not carry the personalized, internal ownership and identification with the project that, for example, was carried by the members of the international committee of the VFV or the fund-raising groups. Having said that we were changed positively by the experience – our knowledge of international conflict, human relationships, the capacity to forgive and humility in understanding others' cultures all grew significantly. We were changed and for the better and now have an ongoing relationship with Vietnam.

⁸³ This comment does not contain any sense of judgment, rather the Vietnamese staff were presenting a culturally appropriate reaction to the visit of the donors showing that, in Vietnamese culture, things were going well and the donor's money was being well spent. From the donor's perspective they were getting warm feelings of having contributed to the wellbeing of disadvantaged people.

⁸⁴ Australia withdrew from the war when I was 18. During the war Australia followed the policy of selective conscription based on a ballot system. Every male had to register for the ballot when they turned 20. The ballot was based on whether their birth date was drawn from a lottery. About 8 – 10% of men registered were called up for military service.

Reflections on the Intervention – Morality of Intervention

While the sports programs, small enterprise projects and structural reviews were good at promoting change, there was still the need for major reorientation in what the VFV was about if it was to survive eventual loss of donor funding. There were many opportunities for the VFV to improve its service that could be easily operationalised given the context. These included: a comprehensive assessment of each child and providing them with a development plan that would allow them to be discharged from the Village into a full and productive life in their own communities; planning for children who, because of their level of disability, have to remain in the Village for the long term; developing an enterprise-based approach to funding the VFV, enhancing existing organic gardening and fish farming projects so the Village could become self-sufficient in food⁸⁵, opportunities for schooling, extension work into the provinces.

The difficulty was getting the donors to deal with their sense of guilt and move from a “no strings attached” donation model to linking funds to structural change in the VFV. Where there was opportunity we asked the veterans to tell their stories and as they told their stories they were able to see, for themselves, why they were in Vietnam. Our work was to listen, ask questions and gently challenge the assumptions they held. It was not to make judgments or political statements. One major theme that kept on recurring was that America was “my country, right-or-wrong”. As one of the veterans pointed out, “*even in our [American] guilt we want to be centre stage*”. The veterans who seemed better adapted to the idea of change in the VFV were those that were able to look towards the universality of humanity with all its fractures, rather than fixate on the behaviour of one country or culture. They also were interested in, and welcoming of, good occurring in the world rather than trying to work out their own personal prescription for change so that they would feel “better”. Guilt can be a powerful motivator to point to the need for change, but it also binds a person to familiar ways of thinking. At the VFV it was apparent that those who were able to move beyond guilt as a motivator were more likely to be able to work for positive change. Remaining feeling guilty generally kept the focus on the individual, rather than enhancing the common good.

Reflections on the Intervention – Insiders and outsiders

The issues of insider vs. outsider became very obvious early in the project and changed throughout it. Initially there was little interest from the management of the Village in seeing us as anything but outsiders as, predictably, many of the senior staff were well set up maintaining the Village as their own personal sinecure. The lower down the ranks we went the greater the acceptance and willingness of the staff to welcome us as insiders and share in the desire to improve the circumstances for the people in the Village. These lower levels of organisation benefited most from our interventions and as we engaged at this level and cultural differences became less significant the more we became the insiders.

The challenge for us in this process was to work out how to be advocates for the interests of childhood development in the context of a culture that wanted to care for the children but did not see the need to advance

⁸⁵ There were some food production projects of this kind in the village however they relied on the presence of the international donors to catalyse the projects.

their social and/or economic position. We were able to act as outsiders to express our opinions as “Western experts” and consequently be heard by both the Vietnamese and International members of the VFV organisation.

Reflections on the Intervention – Capacity to intervene

This commentary makes the VFV sound like a Dickensian orphanage, and in some ways the Village had a very institutional feel. But there was also a considerable amount of love and care and mutual support even in the less than perfect situation. The children stayed in the Village because they did not want to be a burden on the family, it provided a shelter from the normal world and they could find friends who were in the same situation. Given better circumstances they would like to leave. The limitations of being outsiders seeking to move into an insider position were significant and it quickly became apparent that it would be very difficult to implement change without looking at long-term structural reform within the VFV that required the support of the international donors and the cooperation of the Vietnamese staff of the VFV. There were many cultural reasons deeply rooted in the convergent narratives why any head-on attempt to change the way the VFV operated would have been a total failure, given the many tangible and intangible benefits to strategic people in both the Vietnamese and International sides of the VFV. Within our limited scope to intervene we were able to bring change by working below the radar and converting to insiders with those who shared the vision for improvement of conditions for the residents of the Village.

Reflections on the Intervention – Summary

When I reflected upon these four motivations I realised that I was also in Vietnam for the same reasons however, my emphasis was different. Hopefully because I was ten years younger than the veterans, working as a short-term development worker and had not gone through the war it was easier for me to claim my motivation was mainly to do good. However in some soul-searching moments I also had to admit that I too was feeling guilty about being a Westerner, I did enjoy the cheap food and drink (only!) and as with many developing world cities there is an aliveness about them not found in the West. The downside however was that despite our motivations and desire to do good, the work was frustrating. Understanding the cultural framework in which we were working, at the best, explained why the interventions that we thought would bring good, were only every partially adopted.

CASE STUDY 2 – WORLD VILLAGE FOUNDATION, POVERTY PROJECT JOINT VENTURE

In comparison with the VFV this case study illustrates some more positive outcomes. The international people, our translators and a few of the Vietnamese people involved in the VFV project were also active the Poverty Project.

The Poverty Project sought to tap into the growing middle and upper middle, professional classes in the cities of Vietnam who were comparatively wealthy, by Vietnamese standards, and were interested in helping the “poor” particularly in the rural and regional areas where so many of the current urban dwellers had moved from.

There were a number of cultural frameworks that I had to understand to work as an insider⁸⁶. Firstly, the idea of being “poor” – that is, referring to and using the word “poor” did not carry the stigma that it carries in the West. The Vietnamese people with whom we interacted used “poor” as a descriptor rather than as a judgement. Secondly, the cultural ideas of the family, village, Buddhist compassion, and national development gave many people a real desire to help the development of the nation through helping poor people, particularly those in their home provinces. The Vietnamese express this as the idea of “love” – for each other, the community or the nation. Culturally this was probably loosely equivalent the Australian narrative of “strong and supportive communities”. In this context the idea of the use of hearts, images of cute cartoon animals, anime and other “love” symbols

features strongly in graphic design associated with group activities frequented by young professional people. Thirdly, Vietnamese people, and particularly young people, are very community-orientated and love to do social activities together⁸⁷. Young Vietnamese are far less individualistic than Westerners and tend to operate as groups and get involved in activities as a group. Fourthly, most traditional relationships and marriages were organised by the family within the context of the village. As young people move into the city for work, where they do not have the family to organise relationships, they are left uncertain how to “date” and often unable to find venues where they can meet members of the opposite sex. One place where these wealthy, young, urban, professionals do meet is in internet chat rooms and, in a uniquely Vietnamese cultural invention, the meetings in chat rooms are often followed

up with “club” meetings in cafés where people who meet on-line get together to talk about their special interests⁸⁸. Fifthly, as indicated earlier, people do want to give to the poor, and traditionally giving occurs through three main conduits – the local Buddhist temple providing emergency food and clothing, international development projects, government aid projects and local charities. Each of these has their limitations. Because of the corruption, particularly in the government and local charities people are reluctant to give through

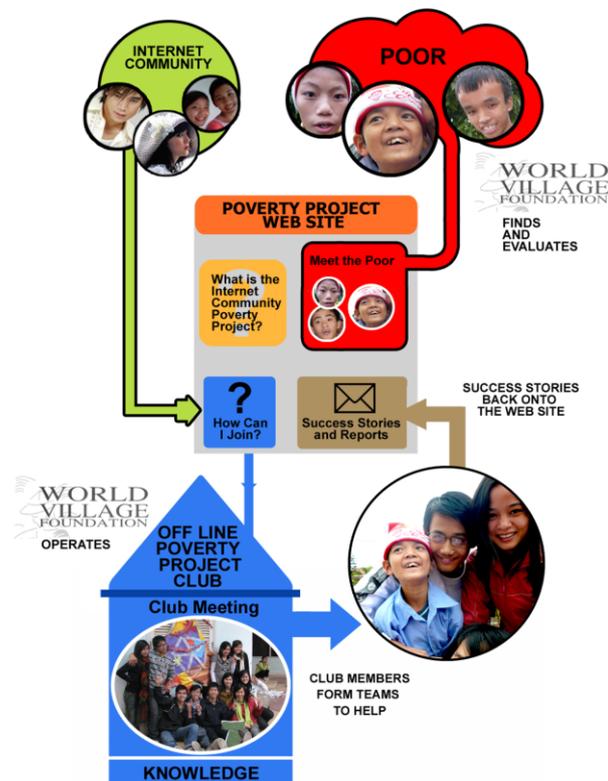


Figure 2 Structure of the Poverty Project

⁸⁶ These five points are distilled from talking to the young people who formed the core team for the Poverty Project

⁸⁷ Illustrated by the Vietnamese joke “to create a market you need two Vietnamese women and a duck.....Actually you don't need the duck!”

⁸⁸ For example fashion, music or to plan trips

government aid and local charities. International development projects tend to occur at a higher level than most local people can access and the Buddhist temples tend to be only focused on short-term support rather than long-term change.

These various cultural strands were pulled together to create the “Poverty Project”. An internet company that hosted on-line chat rooms frequented by young urban professionals set up a website dedicated to the Poverty Project. This was partnered by a small international NGO, World Village Foundation (WVF), that had for the past 10 years been based in Vietnam and supplied translators and staff to support large international development projects⁸⁹ being deployed in Vietnam. WVF had gone through a transition in its activities in the 12 months prior to our work with them. The staff recognised that as Vietnam modernised there would be fewer and fewer large donor funded development projects in addition, there was also a feeling of being tired of the limitations and inefficiencies of the donor driven projects such as the VFV and there was interest in finding more innovative and efficient, locally driven projects to help the poor.

The concept of the Poverty Project drew on a number of cultural characteristics of Vietnamese society as was discussed previously and is shown in Figure 2⁹⁰. The internet company entered into a joint venture with, and funded, WVF Vietnamese social workers to find and evaluate poor people. This evaluation sought to identify the poor who were truly in need as opposed to many of the various scams that operated across the nation in the guise of “charity”. Pictures and bio-data of the poor were put on the company’s Poverty Project website. The buy-in for the internet company was that this was a relatively cheap investment through which it could demonstrate good corporate social citizenship, it would attract more people to its web site, it supported the Vietnamese Government’s policies on poverty reduction and in doing so would attract positive attention from the media and the Vietnamese Government.

The website invited the members of the on-line community who were interested in the Poverty Project, and particularly the pictures and bio-data of the poor, to attend an Off-Line Poverty Project Club run by WVF where they met each other and formed cooperative assistance teams. WVF trained teams how to help effectively and to make plans to directly help the poor they selected from the website. The assistance given by these teams came directly from their own resources; no money came or went to, or from, the company or WVF. The teams had to decide who they would support, how much of their own resources they would give and how it would be delivered, and used the weekly Off-Line Club meetings to support each other. In parallel with this, free-lance journalists operated with the project to write stories about the success and lessons that were learned.

There were a number of legal/ethical issues that needed to be considered in setting up the project and I introduced the concept of a risk management approach, using the risk to the company and WVF as a way of framing the actions. Interestingly, a significant number of culturally related risks that would be relevant for an Australian were discounted by the Vietnamese and vice versa. The Vietnamese were more ready to discount the risk of lack of accountability because the aid was being given directly between people, however they were far

⁸⁹ For example projects funded by World Bank, Asia Development Bank

⁹⁰ The figure was taken from some of the Poverty Project promotional material

more concerned about causing offence by direct analysis (as I would have called it) of a particular social circumstance.

There were a number of successes of the Poverty Project. Firstly, it was able to get up and running much quicker than other development projects. Secondly, it was a “network” style of operation and its success did not depend on the effective functioning of all parts of the project. Thirdly, it was highly efficient; some preliminary assessments were that every dollar invested by the internet company mobilized up to ten dollars of aid sourced from within the Vietnamese community. Fourthly, because the project was diffuse and networked it tended to “fly below the radar” of corrupt local communist party organisers over which the Poverty Project had no control and often latched onto large aid projects and were able to use their connections to siphon off development funds the Poverty Project had no focal point over which to exercise control. Fifthly, the Poverty Project was a “case management” as opposed to a “program” approach to development. By mobilising and training individual Vietnamese people to develop their own programs with discrete partners each case could be managed on its merits, rather than trying to find people to fit into programs.

Reflections on the Intervention – Willingness to be changed

In the VFV project, Case Study 1, we continually realised the complexity of the situation into which we had been placed. We were continually asking, were we willing to be changed by this intervention, how much did we want to “roll-over” to accommodate both the existing International and Vietnamese systems. With the Poverty Project it was easy to move into the project and become part of it and be changed by it. The reason was that the underpinning narratives in the Poverty Project were far simpler and unlike the VFV it was not, in itself, a wicked problem. Culturally the world of the Internet, cafés, and urban lifestyles was a lot closer to our experience than the war narratives that characterised the VFV.

Reflections on the Intervention – Morality of intervention

In comparison with the VFV the questions of morality of the intervention in the Poverty Project were a lot easier to answer because across the team there was a general and overarching desire to do good through the project. Being an insider I could trust the Vietnamese people I was working with to sort through the fine nuances of the correct cultural behaviour and they were able to trust my capacity to get an overview of how the project could be structured.

Reflections on the Intervention – Insiders/Outsiders

The Poverty Project was a good example of Crocker’s concept of hybrid insiders and outsiders being defined by their association with a group. All the participants including the Vietnamese and myself were part of a global internet “group” who accessed an internet-based culture. In this context I was certainly an insider and able to contribute to the success of the project. Where I was an outsider, particularly in understanding the relationships between urban Vietnamese and the poor in the provinces, was irrelevant to the success of the project.

Reflections on the Intervention – Capacity to change

In designing the project the team all recognised that the project was about helping the poor. We used an iterative design process, similar to that described in Chapter 9 that allowed the people from WWF and the Internet company to work out how they could contribute as the project unfolded. My major contribution and area of capability was to design the project, understand how diffuse and networked systems operated, and point to places where the people who were involved could find their own level of engagement and places to contribute their skills. This was a very good example of how my skills coupled with the equally important skills of the Vietnamese team members produced a highly effective package. In this we reflected Crocker's idea of a hybrid insider-outsider team.

SUMMARY

This chapter examined some of the issues that surround how and when a sustainability designer should intervene in a particular circumstance. Some key factors that need to be considered are: firstly, the discussion of ethical and moral issues and dilemma should be part of the unfolding narrative associated with our practice. It is not enough to go with first impressions, follow what we have been taught or what worked elsewhere – each situation is different. Secondly, an intervention will need to recognise that the designer can be both an insider and an outsider, however a better approach to the insider-outsider dichotomy is to view oneself as part of a fluid group dynamic in which there is a continual motion between the insider-outsider positions. Thirdly, the designer has to recognise that for most of the time they have to live with different shades of moral grey, as opposed to clear black and white situations. In these circumstances Ricoeur's ideas of...*(1) the primacy of ethics over morality, (2) the necessity for the ethical aim to pass through the sieve of the norm, and (3) the legitimacy of recourse by the norm to the aim whenever the norm leads to impasses in practice ...* are of particular importance. In non-normal situations, where the designer has almost ultimate power or is confronted with the extreme self-interest of the bastard factor, much more care and creativity is needed to pick a way forward. Finally, the willingness to be changed must also be one of the criteria for intervention. Ricoeur points out that we are not self-sufficient, modernistic "gods" who can pontificate about how the world should be. Rather we are part of an unfolding narrative that we are shaping and that is shaping us.

For a sustainability designer contemplating an intervention there is often the temptation to think "I know better" and often this is true. But if this slips into hubris and gets extended to "... and my view should be imposed" it becomes dangerous ground for any practitioner. As we uncovered the VFV stories we had to continually ask, "Do I have the right to intervene and to try and direct this narrative?" and were confronted by ethical and moral dilemmas associated with this decision. We also had to acknowledge the confrontation generated out of the feeling "I am offended and I don't want to change to accommodate these people's values". Consequently the VFV process was difficult and of low effectiveness, probably because the people within the VFV had a strong preference for maintaining the insider-outsider dynamic despite the ensuring ethical and capacity dilemmas. The

Poverty Project was far more successful because the resolution of the insider/outsider dynamic was occurring through a "hybrid group" largely because we were working in a globalised culture (but with local flavour) mediated by the Internet. In this context the issues associated with ethics, capability and willingness to change were more easily resolved. In contrast with the VFV the Poverty Project had a sense of ease associated with it reflecting the sense of being part of a hybrid group where everybody was both and alternately insiders and outsiders. In this context it, was easy to enjoy the personal change brought about by the intervention.

Chapter 8 – Leadership

INTRODUCTION

For the sustainability designer the question of leadership becomes inevitable. It is needed to coordinate groups of people to work in the real world of wicked problems but different leadership models are needed for different circumstance. This was no more apparent than in this case study of changes on the Ningaloo coast of Western Australia over a 10-year period from the late 1990s to the late 2000s. During this time the Western Australian State Government introduced a major change to the tenure and management of the Ningaloo coast from being under pastoral station (livestock ranching) control with small camping enclaves at selected locations, to becoming an internationally recognised nature conservation area and ecotourism destination. This represented a major intervention into a long-established land tenure and management regime with all the attendant social and economic ramifications. Some of the wickedness of this problem was that the land tenure system which underpinned the management of the coast was the major cause of its degradation, however the solution proposed by the Western Australian State Government, to convert a strip of the coast to national park to protect the coast and Ningaloo Reef was not financially viable in the short-to-medium term. The main managers of the coast, the pastoral land-owners, and the main users, informal campers, were strongly opposed to the imposition of a government conservation bureaucracy. They felt would it change the whole culture and feel of the coast from something that was unique and different to a homogenised, corporate, conservation badging. This case study particularly focuses on the leadership styles/models shown by the State Government and its representative officers which affected change on the Ningaloo coast, the outcomes of the deployment of these models and what could have happened if different leadership styles were used, but before that some thoughts about leadership and narrative to guide our consideration of the case study.

HEROIC AND CONSENSUS LEADERSHIP – MAPPING THE TERRITORY

If Ricoeur's ideas of selfhood and sameness are considered in isolation from each other, without the unifying force of a narrative identity, they can define a polarity across a leadership spectrum that stretches between leadership by the individual, and facilitated leadership the group (Bass, 2006; Hernandez, Eberly, Avolio, & Johnson, 2011; Bligh, Kohles, & Pillai, 2011; Bolden, Gosling, Marturano, & Dennison, 2003). *Selfhood*, with its emphasis on something that is uniquely "me" can be assumed to be analogous to the idea of "heroic" style of leadership (Thomas, 2008). Sometimes this end of the spectrum is referred to as "Great Man" Theories of Leadership where leaders are "*exceptional people, born with innate qualities, destined to lead*" (Boers, 2004; W. A. Cohen, 2010, 2012; Manz & Sims, 1991; Sims, 1996). The other end of the spectrum – sameness, with its emphasis on commonality and shared identity, can be referred to as "consensus" leadership and includes reflections on: facilitating group decision making (Bolden et al., 2003 p.6), decision making in complex systems (Swindall, 2007), relational leadership (Uhl-Bien, Marion, & McKelvey), distributed leadership (Cunliffe & Eriksen, 2011), participatory leadership (Edwards, 2011) and participatory decision making (Irvin & Stansbury, 2004). To illustrate the range of processes within consensus leadership five examples are presented below.

Deliberative Democracy – Professor Janette Hartz-Karp⁹¹ has championed deliberative democratic leadership, the application of which is examined in Chapter 10 Forum. Deliberative democracy is built around “... *the importance of fair and open community deliberation about the merits of competing political arguments*” (Hartz-Karp). Alternatively “*Deliberative democracy, or participatory democracy, has been described as a nascent social movement, a response to the perceived inadequacies of representative democracy (Torres, 2006)*”⁹². According to the Deliberative Democracy Consortium, a network of practitioners and researchers from more than 50 organisations and universities across the globe: “*Deliberation is an approach to decision-making in which citizens consider relevant facts from multiple points of view, converse with one another to think critically about options before them and enlarge their perspectives, opinions and understandings*” (Uhr, 1998 p.4).

Environmental Change Leadership – Taylor et al. (2011) describe three phases which they consider characterise a process that shows leadership or, in Taylor’s words, people who are champions, in environmental change. The three phases are: Initiation Phase (focussed leadership) that operates at the initiation of a project or policy and tends to be dominated by individuals who are often highly visible and have strong drive creating new initiatives. The next phase: Endorsement Phase (instrumental leadership) applies to those operating in institutions and are good at networking, organising executive functions and accessing and allocating resources. The final stage the Implementation Phase (distributed leadership) are those that are able to facilitate multi-disciplinary, cross-boundary project teams involving many leaders and high levels of collaboration based on group facilitation. In Taylor’s model the leadership needed for the Initiation Phase is analogous to the Heroic model; similarly the final Endorsement Phase of distributed leadership is analogous to the consensus leadership. While Taylor’s model is a useful concept it is firmly located within a modernist paradigm and the projects encountered by a sustainability designer will not necessarily follow this three-stage process. The leadership needed to be shown by a sustainability designer is more likely to be recursive and oscillate between the heroic and consensus (or Taylor’s Initiating and Endorsement Phases) ends of the spectrum across the whole project development and deployment.

Complex Adaptive Leadership – is based on phenomena observed in nature that if a system has an energy and/or information gradient to degrade it will naturally self-organise, that is, structures will “emerge” from non-structured situations to degrade the available energy and/or information gradient. The shape and form of these emergent structures is governed by simple rules however these rules are of a defining, not a predictive, nature. A frequently provided example is that much of nature, e.g. spiral sea shells, the structure of a broccoli head and the Golden Section, can be described by the Fibonacci series, a very simple mathematical equation that produces highly complex behaviours and structures. The common factor in these examples is the question of how to pack a naturally growing organism most efficiently, in terms of energy and materials, into a given space. The Fibonacci series has been found to be highly descriptive of this process. A further feature of emergent systems is that they tend to occur in forms that are recursive, that is, they replicate up and down different size

⁹¹ Professor Janette Hartz-Karp was a community engagement consultant with the Western Australian Minister for Planning and the Department for Planning. Between 2004 and 2007 she was responsible for the design, coordination and lead facilitation of the Dialogue with the City forum and continuing process.

⁹² In 2013 Professor Hartz Karp is now referring to “Deliberative Democracy” as “Sustainable Democracy” reflecting the integration of sustainability into the lexicon of democratic processes

scales. For example a coastline can be considered to be a sequence of logarithmic shaped bays nested within each other; this is discussed in the chapter on Physicality.

The attraction of complexity theory is that it is very good at describing the behaviour of the real world, and is attractive to people who see the limitations of linear and reductionist descriptions of the real world but still long for predictive certainty. This attraction is a trap, in that, because rules can be developed to describe complex behaviour some people hope to use these rules predictively, or alternatively latch onto complexity theory as the “solve-all solution” for the world’s problems. The reality is that complexity theory can only describe the world; it cannot predict behaviour, leading to obvious disappointment⁹³.

Despite the predictive limitations of complexity theory, writers like Uhl-Bien are able to borrow the concepts and language of complexity theory and present leadership models that recognise the chaotic, complex, emergent and adaptive nature of the real world and suggest that leadership models based on these understandings have a better chance of delivering sustainable outcomes and addressing wicked problems than the top-down bureaucratic paradigms that have characterised industry over the past 150 years. They say:

“Using the concept of complex adaptive systems (CAS), we propose that leadership should be seen not only as position and authority but also as an emergent, interactive dynamic—a complex interplay from which a collective impetus for action and change emerges when heterogeneous agents interact in networks in ways that produce new patterns of behaviour or new modes of operating” (Uhl-Bien et al., 2007 p.299).

In Chapter 2 we discussed some of the limitations of trying to apply the theory of complexity and emergent systems predictively. While there is a misplaced confidence in the capacity of CAS to be predictive, there are many concepts suggested by Uhl-Bien et al. that are useful to the designer. These include: recognising that leaders will be mostly working in “an emergent, interactive dynamic that produces adaptive outcomes in a social system which is somewhat similar to the discussion about creating a working space or Forum discussed in Chapter 10. Similarly it is important for designers to understand that they are working within dynamic networks⁹⁴ and recognise that these networks will demonstrate relationships, rules of action, stable and unstable behaviours, and both positive and negative feedback loops. Finally, that new initiatives, methods and challenges will emerge from working within dynamic networked systems. As Uhl-Bien also notes, the designer will see “... *emergent change behaviours under conditions of interaction, interdependence, asymmetrical information, complex network dynamics, and tension*” (Uhl-Bien et al., 2007 p.309) and recognise that the design process should catalyse adaptive leadership, promote interdependency, recognise and live with creative tension, and be able to manage the entanglement and interfaces between adaptive and administrative processes. There is considerable similarity in this to Ricoeur’s idea of nested, interrelated, narratives explored earlier.

Harvard – Bouwhuis (2007) describes an approach developed at the Harvard Business School as an alternative to traditional visionary leadership, or, as we refer to it, heroic leadership. He presents four characteristics, some

⁹³ This was illustrated by the attempts in the 1990s as chaos theory became popular to exploit it to generate wealth from the stock market. But as Sherden states “although stock returns do appear to exhibit chaotic structure, the departure from pure randomness is probably too small to be usefully employed in any predictive scheme aimed at beating the market. Even if the equations were found their effectiveness would deteriorate over time by the very process of using them to make money”. See also (Sherden, 1998 p.120)

⁹⁴ Which is related to complexity theory

of which are common with Complex Adaptive Leadership. These are that leadership can exist without formal organisational authority for example an individual or group such as an NGO can lead because their capability and moral authority is recognised even if they are not part of an organisational structure⁹⁵. Secondly, leaders have to learn to live with disequilibrium similar to the issues encountered in Complex Adaptive Leadership. Thirdly, they have to build a support system so that they move forward into complex situations surrounded by a group that can work on many fronts and in many different styles, and finally, they must pick a problem that is solvable that is it is of a size that can be solved by the available group and is not so small that it is considered trivial but not so big that it is overwhelming. Once again it is noted that these characteristics should be considered as part of the skills and capabilities of a sustainability designer working at the consensus end of the leadership model.

Distributed leadership – explores the mechanisms by which leadership can be distributed around a community in the context of social movements and describes this as a local-cultural and local-historical phenomenon. “Leadership is therefore understood to be a process distributed in a broad sense across society” (Edwards, 2011, p309). Essentially, for Edwards, distributed leadership sits well on the outer edge of consensus where the society can be considered to be leading itself. He identifies seven characteristics by which distributed leadership can be evaluated including sense of belonging and connectivity; group and leader identity; common values and ethics; common language, discourse and dialect; a virtual community social networking; friendship; and common cultural aesthetics.

The differences between heroic and consensus leadership have played out over recent history and, in the sustainability discourse, heroic leadership has tended to be seen as individualistic and instrumental in creating wicked problems, but the heroic baby should not be thrown out with the heroic bathwater. On occasions there is a very real need for out-the-front, decisive and definite action, and the sustainability designer should not shy away from these situations just because conventional wisdom is that heroic leadership should be avoided or that it creates problems. There are many occasions where an over-zealous commitment to consensus leadership, in all its different complexions, can result in a waste of time and resources and only produce a pooling of collective ignorance. So what can a sustainability designer use as a guide on when to use heroic leadership and when to use consensus leadership or one of the points between these two? The answer from Ricoeur is to pay attention to the narratives which are unfolding and to be authentic in whatever leadership position is being taken.

Leadership from within narrative identity

Authentic leadership can serve as the basis for implementing a range of leadership styles, as Luthans et al. says, “We treat authentic leadership as a root construct and foundation that serves as a point of departure for other forms of leadership (e.g. transactional or transformational leadership). In other words, a transactional or transformational leader can be more or less authentic, but the authentic leader is not defined as being a particular style of leader per se...”. (Luthans, Norman, & Hughes, 2006 p.85). For Luthans et al. authentic leadership is a combination of self-awareness components (values, identity, emotions, motives/goals), self-

⁹⁵ This is also reflected in (Fildes & Stekler, 2002)

regulation, unbiased processing (absence of denials, distortions and exaggerate), and relational transparency (p.88-90). Although the idea of authentic leadership is not without its critics (Ford & Harding, 2011), it does provide a context for a designer to reflect about how they approach their practice.

Similarly Avolio and Gardner (2005, pg. 318) say "*The foundations for this perspective are provided by the philosophy of Ricoeur (1992), who conceives of the self as a narrative project through which individuals interpret the disparate actions, events and motivations they experience to construct a unifying life story for themselves.*" (p.228). Grant & Marshak (2011, p204) reference Ricoeur's work and presents the narrative framework as being "*useful for a discourse-based approach to understanding and managing the processes and practices of organisational change*". Similarly (Sparrowe, 2005) presents an extensive analysis of the relationship between Ricoeur's work and authentic leadership. Heifetz, Kania, and Kramer (2009) explore the necessity and challenges of being an authentic leader in the real world. However the most comprehensive linking of Ricoeur with authentic leadership is in Sparrowe's analysis; the key points are presented below.

Firstly, authentic leadership requires a "primacy of self-awareness", however for Sparrowe self-awareness is not the same as the modernist, self-aware mind, burdened with non-authentic ephemera, he says "*Although authenticity necessarily involves 'owning' who one truly is, the idea that individuals come to know their true selves only by withdrawing from others seems incomplete. The emphasis in contemporary leadership on awareness of an interior, 'true' self has the unintended consequence of neglecting how the authentic self is constituted in relationships with others...Drawing from the hermeneutic philosophy of Ricoeur (1992), I argue in the following Section that the true self is not discovered absent of others, but is constituted in relation to others.*" Sparrowe (2005)p421. For Sparrowe it is this being in relation with others that helps define the authentic self.

Secondly, in a discussion of "*The enduring nature of the true self*" Sparrowe explores the dialectic of whether "*the authentic self generally is seen in terms of enduring qualities of the character of leaders*" while at the same time undergo change: "*Yet, the assumption of constancy is troubling because it represents a truncated view of the self. Leaders change, as do their followers.*" (Sparrowe, 2005 p 422). As he observes Ricoeur's "*theory of the self as a narrative project addresses this dialectic of constancy and change*". For Sparrowe this dialectic is resolved in consideration of transparency, or as Ricoeur uses the term consistency" and alignment between the leader's inner values and their actions with others.

Thirdly, the above point is taken further in the discussion of 'Self-regulation and consistency' where a differentiation can be seen between "*pseudo-transformational and authentic transformational leaders by describing the former as deceptively appearing to be moral, whereas the latter genuinely have their followers' interests at heart. Although the practitioner approaches rarely speak explicitly of self-regulatory process, they are everywhere implicit in the idea that authentic leaders evaluate and shape their behavior in relation to purpose*" (Sparrowe, 2005 p.423).

Consistency is the result of self-awareness and self-regulation working in concert: authentic leaders are effective in leading others because followers look for consistency between their leaders' true selves—as expressed in values, purpose, or voice—and their behaviors. (Sparrowe, 2005 p.421)

Finally, in Sparrowe's analysis, authenticity requires positive and moral leadership. He explores, and rejects, whether being authentic is a natural generator of ethical behaviour. Indeed, because "*to thine own self be true' looks inward before recognizing others, its basic orientation is narcissism.* The alternative is to see the other in oneself '*but because individuals treat themselves as an 'other' in crafting a narrative self, and because other persons—real and imaginary—offer different plot lines, the emphasis shifts from one's own self to how others are recognised, regarded, and esteemed. Through this shift from narcissism to the self being construed and constituted in relation to others, the possibility of reflecting coherently about how authenticity is reflected in the ways leaders and followers treat others becomes real*" (Sparrowe, 2005 p.423).

These four points constitute a useful framing for authentic leadership and could be further strengthened by more treatment of the relationship between aims, morality, ethics and practice, as in Ricoeur's requirements of (1) *the primacy of ethics over morality*, (2) *the necessity for the ethical aim to pass through the sieve of the norm*, and (3) *the legitimacy of recourse by the norm to the aim whenever the norm leads to impasses in practice ...*

We now will apply this analysis to the situation on the Ningaloo coast of Western Australia by particularly examining the narratives that unfolded during the change process, how different leadership styles affected what occurred and what could have been done differently.

CASE STUDY – THE NINGALOO COAST

The Ningaloo coast is on the arid northwest coast of Western Australia. It contains a near-pristine coral reef, terrestrial lands that range from high biodiversity through to totally modified ecosystems. Economically it is of interest for petroleum exploration, tourism, salt mining, fishing, horticulture, pastoral activities, aquaculture, algal biotechnology, service industries, government services, health. Socially and culturally the region's population is predominantly in two towns: Carnarvon the regional service centre, and Exmouth. These towns have populations of about 7500 and 2000 respectively although these numbers swell considerably during the tourist season. (Government of Western Australia, 2003). They are considered to be similar to the lower middle socio-economic suburbs in Western Australia's capital city of Perth. Approximately 10% of Carnarvon's population is Aboriginal with a number of language groups converging on the area. The Ningaloo coast predominantly is within the Baiyungu Aboriginal people's country ⁹⁶ (Gilles, Larson, Howard, & Wheatland, 2004).

My role in this process was to act on behalf of some of the regional land-holders and some of the aboriginal groups in representations to the government during these change processes, our company was also designing an ecotourism resort at one location on the coast. Despite the huge geographic area involved the population was very low and, in my role working on numerous studies and participating in consultation processes it was relatively easy to personally know or be acquainted with the majority of the key stakeholders in State and local

⁹⁶ Tindale describes the extent of the following tribes Baiyungu - "On Lower Lyndon and Minilya rivers. Southwest of the salt marshes to Quobba; east to Winning Pool; north to Giralia and Bullara but not to the seacoast and Exmouth peninsula. Von Brandenstein combines them with the Maia and thus includes in their territory country south to the Gascoyne River" Heifetz, Kania, and Kramer (2009); South Australian Museum Archives, (2000)

government, the NGO network, landowners and other interested parties. Being intimately associated with the process over four years enabled personal observations and insights to be built over multiple activities. All the observations reported were taken from first hand experience as a professional engaged in the design process. In cases where ethical sensitivities emerged from reporting from this position the identities of the people involved has been obscured by coding the response or generalising the observations.

Throughout the 1990s there had been growing interest in the Ningaloo Reef because of its high levels of biodiversity and its potential for tourism that could rival the Great Barrier Reef. In the late 1990s there was a proposal from a private developer, Coral Coast Marina Pty Ltd, to develop a large hotel, resort and marina complex at Maud's Landing adjacent to the town of Coral Bay. The thinking at the time within the Western Australian State Government was that it was better to have one large tourism facility in one location and leave the rest of the coast undeveloped. The resort was strongly opposed by a very large, activist-driven, campaign⁹⁷ because it was considered that the impact on the reef would be too great. This resulted in the Gallop Labor Government in 2003 rejecting the marina proposal and replacing it with a dispersed model of a range of different sized ecotourism facilities spread along the coast.

Despite this very obvious evidence of change on the Ningaloo coast during the 1990s, policy-driven intervention was not new. Since 1975⁹⁸ there has been sporadic discussion and policy formulation about the Ningaloo coast. In 1997 the Richard Court Liberal Western Australian Government created exclusion legislation to remove a two kilometre wide strip from the pastoral leases along the Ningaloo coast to protect the Ningaloo Reef and to create a strip of land with appropriate tenure to protect the reef and in which tourism development could occur. In 2004 when Government rejected the resort and marina proposal at Maud's Landing it prepared the *Ningaloo Coast Regional Strategy* and set up the Ningaloo Sustainable Development Office (NSDO) and Ningaloo Sustainable Development Committee (NSDC) based in Carnarvon to oversee the deployment of the *Strategy*. The Government's intention was that having the NSDC as a locally based extension of the WA Planning Commission and NSDO a division of the Department of Planning and Infrastructure would smooth the path of transition and development of the Ningaloo coast.

Despite all the Government's intentions by 2008 this process could not be considered to be a shining example of positive change management, and the actions of the NSDO and NSDC were viewed with a considerable degree of disaffection by sectors of the local community.

The sources of disaffection are described below and it is important to define what constituted the local community and examine why they became disaffected with the process. The local community can be divided into three sections: pastoralists, the Exmouth and Carnarvon Shire Councils and the communities they represent, and the repeat and/or long-term visitors to the coast. In reality these are not clear-cut divisions. As with any small community the lines between the groups within the society are blurred through friendships, history, business and administrative relationships. Understanding this blurring is important to understanding the origins and the communication of disaffection.

⁹⁷ *Save Ningaloo Campaign* see the campaign website (Australian Marine Conservation Society, 2008)

⁹⁸ A brief summary is given in Western Australian Parliamentary Hansard

Pastoralists

The pastoral community is a relatively tight-knit group with strong links to the Shire Councils and the general Carnarvon, and to a lesser extent the Exmouth, communities. The pastoralists in the five stations along the coast were immediately impacted by the changes. The majority of these pastoralists were part of the local Landcare⁹⁹ group¹⁰⁰ and had been working for many years on Landcare activities to maintain a certain level of environmental management and repair of the coastal zone in what later became the exclusion strip.

Three events appear to have been seminal in alienating the pastoral community. Firstly statements in 2003 made by then Minister for Planning and Infrastructure, government bureaucrats and some sections of the conservation movement, that pastoralists were “kings in grass castles”, raping the land and degrading the ecosystem while making huge amounts of money. Historically 50 – 100 years ago these criticisms were justified, however over the past 20 years the Gascoyne pastoralists, through their involvement in the Landcare movement, had made considerable progress towards improving their performance, developing world-class innovative landscape management practices and diversifying their industry away from grazing. In addition the days of a “pound (currency) for a pound (of wool)” which created the golden fleece days of pastoralism in the 1920s to the 1960s were well and truly over. In the 2000s most of the pastoralists were making moderate to reasonable income but none were “kings in grass castles” as the Minister had maintained in the media. This criticism extended to unfounded estimations by Government that the pastoralists were making a lot of money out of campers on the coast. While they were charging fees for camping they also had to pay for caretakers and other support services with no assistance from Government. Consequently statements by the Minister, the bureaucrats and members of the conservation movement about poor landscape management by hugely wealthy pastoralists was seen as being insulting and ignorant.

Secondly, in 1996 the State and Federal Government undertook a major regional development initiative, the Gascoyne Murchison Strategy (GMS) in the Gascoyne-Murchison region of Western Australia. This Strategy addressed the economic base, conservation requirements, structural adjustment and industry diversification of the pastoral industry. The GMS operated within a Natural Resource Management (NRM)¹⁰¹ framework. The GMS ran from 1998 – 2004 with a budget of approximately \$35m. Part of this budget, approximately \$9m was allocated for the purchase of pastoral stations that contained areas of high biodiversity potential. The understanding in these purchases was that the then Department of Conservation and Land Management (CALM)¹⁰² would purchase the stations following which there would be a process of boundary readjustment such that lands that had high biodiversity potential would be added to the conservation estate and lands with potential for grazing would be available for purchase by surrounding pastoralists.

⁹⁹ Community based ecological repair and restoration NGOs

¹⁰⁰ Lyndon Land Conservation District Committee

¹⁰¹ The NRM framework in Australia is defined in numerous State and Federal Government policies including the Bi-Lateral Agreement between the Commonwealth Government of Australia and State of Western Australia to deliver the Natural Heritage Trust 2002,

¹⁰² CALM later merged with the Department of Environment to become the Department of Environment and Conservation (DEC). Consequently through out the chapter the agency is referred to as CALM/DEC

In purchasing these stations CALM/DEC was considered to have paid above market price and did not undertake the boundary readjustment process that they indicated would have occurred, thus land was lost to the pastoral industry. In addition CALM/DEC did not undertake any management of these stations other than to shut them down, allow the infrastructure to degrade and, in places, shut off artesian water bores that resulted in considerable stock and wildlife deaths. A review of the GMS by URS Consulting (URS Consulting, 2004) identified that while the conservation resources in the GMS had been used to purchase stations for addition to the conservation estate there had been little progress towards the off-reserve conservation objectives of the GMS. The pastoralists saw this as CALM/DEC being particularly ignorant of rangelands management practices.

When CALM/DEC closed down the station families and workers moved on, which some pastoralists considered pushed the regional pastoral community below a point of social viability. People were leaving and no one replaced them: with this exodus of people the knowledge base on how to manage the rangelands was being lost. As one of the pastoralists said “There is no Rangelands Management Handbook – we learn from each other at business, social and family events”. While there was an idealised concept held by the members of the conservation movement that if the pastoralists were removed the land would return to an Edenic state, the reality for the pastoralists was that both Aboriginal and European peoples had been changing the landscape over the past 20 - 40 000 years and walking away from the responsibility of landscape management was not an option. Degrading a viable community of people that had the skills to be landscape managers would, in the pastoralists’ opinion, led to a degradation of the landscape.

Thirdly, the Richard Court Liberal Western Australian Government set up exclusion legislation to facilitate the removal of lands that were needed for Government purposes from pastoral leases when they came up for renewal in 2015. This included a 2 km strip on most of the Ningaloo coast that was identified by CALM/DEC as being needed to “protect the marine park”. There was an interesting anomaly in the southern end of the Ningaloo Reef where a one kilometre stretch of the coast was identified, by the Shire of Carnarvon and Department of Fisheries, as needing exclusion to protect the recreational areas of the coast. The informal reason given by the Carnarvon Shire Councillors who pushed for the exclusion at the southern end of the Ningaloo Reef was to “keep CALM out of the area”.

The letter triggering the exclusion negotiations said that the boundaries of the exclusion zones were negotiable. However this letter and the supporting legislation was somewhat ambiguous in that it implied, under certain readings, that if there were no resolution of the boundary exclusion negotiations the pastoralists would not have the opportunity to renew their whole lease in 2015. The pastoralists considered that this was an unethical use of legislative power by the Government. An alternative reading was that if boundaries could not be negotiated then come 2015 the boundary as was stated in the letter would trigger the exclusion negotiations. The purpose of boundary negotiations was to allow for adjustments to minimise, as much as possible, the impact on pastoral activities.

In the case of the boundary negotiations run by CALM/DEC on the Ningaloo coast the initial meetings acknowledged that some boundary changes were possible, which was appreciated by the pastoralists as, while

the reef was very important from a biodiversity perspective, about 60% of the coastal landscape adjacent to the reef was nearly totally over-run by an introduced grass species. The main threat to the landscape inside and outside the exclusion strip was fire within these grasslands, which could be controlled by using grazing to reduce fuel loads. Conversely the main threat to the marine park was human access that could be controlled through management of relatively few entry points on access tracks along the coast; the pastoralists considered it did not need a two-kilometre strip exclusion. The pastoralists considered that boundary readjustment to allow grazing in these areas but also provided better control over access represented a win-win situation for both CALM/DEC and the pastoralists. However at later meetings CALM/DEC changed its position, said that the Minister had said that there would be no changes in the boundary allowed, and its policies would not allow grazing on land under its management.

From the pastoralists' perspective the decisions by CALM/DEC on the exclusion strip were not based in any understanding of ecosystem management or in ethical behaviour. The two-kilometre exclusion strip did not reflect best-practice ecosystem management as understood from a Landcare or ecosystem management perspective, and was purely an arbitrary line drawn on a map. Anecdotal advice from a CALM/DEC officer was that the two kilometre exclusion strip was determined by the width of a felt-tipped highlighter marker (4mm) when it was used to draw the strip on a 1:50 000 scale map of the Ningaloo coast. Another interpretation was that CALM/DEC had a singular focus on the creation and management of a marine park and did not see or understand that there was an continuum of ecosystem transitions from the reef through the beach and dune systems to the landscape to the east of the coast. The accusation that CALM/DEC demonstrated unethical behaviour was because it changed its position on boundary negotiation, particularly when the triggering letter had specifically said that some boundary negotiation was possible.

This was particularly galling for the pastoralists in the northern section of the Ningaloo area who had to negotiate with CALM/DEC, when the pastoralists in the southern end of the area were able to negotiate successfully with the Carnarvon Shire and Department of Fisheries to find mutually satisfactory arrangements for creation of tourism node leases, the grazing use and management of the coast. The success of these negotiations was put down to:

- All parties were negotiating in good faith and integrity with a clear recognition and a willingness to seek opportunities for benefits to all parties involved
- Negotiations started from all parties recognising that change to the tenure of coastal land was needed to allow its long-term development, and that it was important to ensure that the coast's ecological values were protected
- The local community use of the coast and its inherent cultural values were respected
- The issues associated with the change process were laid out "on the table" so that all parties could be involved in finding solutions for these issues
- The government agencies recognised that the natural resource management of the coastal strip had to be integrated with NRM strategies on the land outside the coastal exclusion strip

- The negotiation process recognised that there had to be economic opportunities and benefits for the pastoral station, the community and the State from the change process

Aboriginal Community

Before discussing the disaffection of the community it is also important to understand the land tenure contexts along the coast and the complexity the changes brought by the exclusion process. The process of moving land out of a pastoral lease to another purpose, e.g. conservation reserve, would trigger the provisions of the Federal Government's Native Title Act. In this context CALM/DEC and the Government had to enter into negotiations with the Baiyungu Aboriginal Corporation as part of the Gnulli Native Title claim over the Ningaloo coast to seek extinguishment of Native Title over the land. This further compounded the complexity of the issues because, while CALM/DEC were offering the Baiyungu people joint management of the coast, that is - jobs and a say in the future of the park, and a business opportunity in the coastal town of Coral Bay; it was requiring surrender of Native Title over the coast in exchange for these opportunities. The Baiyungu people were not resolved on this issue although in 2008 they had relinquished title over an area around Coral Bay they had made no decisions about the long-term tenure of the coast. This added an extra dimension to the negotiations over an early release of pastoral lands by which, while it would have happened by default in 2015 when the existing leases expired, CALM/DEC and the Government were eager to gain early surrender of the exclusion land so that they could get on with the business of developing the area.

Exmouth and Carnarvon Shires and communities

As has been commented earlier, the line between the various parts of the Gascoyne community is very blurred; one group merges with another and communication between the groups is generally an easy matter. This is true of the Shires and the communities that they represent. While the exclusion process directly affected the pastoralists on the coast their attitudes and experiences were easily communicated and taken up, to a greater or lesser extent, by the Shires and general community.

There were some significant differences in responses to the change process between the Carnarvon and Exmouth Shires. The Carnarvon Shire had a longer history and a more diverse economic base than Exmouth and, until the early 1990s, did not see itself as a tourism destination. Traditionally it has seen itself as a primary industry (pastoral, fishing, mining, horticultural) and government service centre.

Culturally Carnarvon is very diverse. It has a large Aboriginal population and is a major service and development centre for the Aboriginal community. For many years Carnarvon has had to live with all the challenges and opportunities brought about by the historic relationships between peoples of Aboriginal and peoples of other ethnicity. In addition the horticultural, mining and fishing industry had brought over 15 different cultural/national groups with their own identity and many other individual or family groups of differing nationalities and cultures. This has also led to a series of different cultures and attitudes within the town.

People of Carnarvon had a long association with the southern end of the Ningaloo coast and saw it as “theirs” particularly because there was little interest in the coast other than for local recreational purposes. However for many years the Shire had been watching CALM/DEC’s activities in the World Heritage Area in the Shire of Shark Bay and the Cape Range National Park in the Shire of Exmouth. The desire to avoid being “run over” by CALM/DEC, as was seen to be happening at Shark Bay and Exmouth, coupled with the experiences of the pastoralists led the Shire to, as has been described above, to seek the vesting of the section of the Ningaloo coast not claimed by CALM/DEC as referred to earlier.

As the *Ningaloo Coast Regional Strategy* implementation unfolded the Carnarvon Shire Council appeared to believe the attitude that the *Strategy* represented a Perth-driven planning processes (WAPC, DPI and their local versions NSDC and NSDO) that had taken over the coast, that the management of the coast was to be given to CALM/DEC and that the best the Shire could do was to try to hold on to whatever they could still control and assume that the rest would be taken out of their hands.

The people in the wider Carnarvon community, outside the Shire council, generally appeared to be opposed or resigned to the changes along the coast. In most cases it was considered that better management of the coast was needed but there was also a strong opinion that with the right information and resources the locals could do as good or a better job than State Government through CALM/DEC.

The experience of the Exmouth Shire was different to that of the Carnarvon Shire. Exmouth had started as a USA/Australian military town. When the military activity was greatly scaled down the town turned to tourism as the new economic engine for its hinterland. The active focus on tourism to survive economically, coupled with CALM/DEC’s management of the Cape Range National Park and the Ningaloo Reef, made tourism a more familiar industry to Exmouth than Carnarvon. Despite this the Exmouth Shire was also resistant to the changes brought about through the government planning processes that were different to those operating in Carnarvon. Firstly, the Exmouth Shire felt that it was being increasingly encroached upon by expansions of CALM/DEC’s conservation estate that limited its access to resources such as basic raw materials and areas that could be used for expansion of the town.

Secondly, the *Ningaloo Coast Regional Strategy* stated that the development of urban land would be limited to the Carnarvon and Exmouth Towns. One of the development nodes on the Ningaloo coast, the Lighthouse caravan park, was on a freehold lot and adjacent to Exmouth town. Its owner wanted to fund the development of a tourist facility through sale of freehold lots. The Exmouth Shire supported the development proposal however it was rejected by the Ningaloo Sustainable Development Committee because its interpretation of the *Strategy* was that freehold development and sale of residential lots was not allowed outside the major towns on the coast. The Exmouth Shire, and some sections of the community saw this as Government planners overstepping the mark of what was an acceptable level of imposition on their sphere of activity.

The Exmouth community had had long association with CALM/DEC and had developed working relationships with the agency and recognised the value to the town of the Cape Range National Park. In addition CALM/DEC

had a number of staff stationed in Exmouth who integrated with the local community. Exmouth was far more culturally homogeneous than Carnarvon with the main population being Caucasian of UK ancestry. These factors, coupled with the town's tourism focus and easy access to good beaches, surfing and diving had attracted a more conservation-minded, younger and transient population than Carnarvon. These people had a more positive attitude to the changes brought about through the government planning processes.

Visitors and Tourists

Historically the Gascoyne region attracts a significant number of repeat and long-term visitors, particularly those who live for long periods of time up to 6 months in camps on the coastal stations, in caravan parks in Carnarvon and Exmouth. These people appreciate the locality and have developed an association and identification with the pastoralists and the townspeople. While these communities are ephemeral they do have a social cohesion and identify with places in the landscape and activities in the towns. These groups mobilised themselves to resist and oppose changes to their activities that were brought about by government planning. The main opposition from these people to change was, as with the local community, a reaction to CALM/DEC's management regimes and a consideration that when implemented a local culture would disappear under government management of the coast. As has been discussed elsewhere the economic contribution of these people is variable, however their community cultural contribution and, potentially, the resource to contribute to landscape management in non-economic ways is considerable.

Overlaying these visitors were the short-term tourists who came to visit and pay for an experience. The main difference between the visitors and the tourists was the degree to which a consumer mentality applied. The tourists pay money to "do" a location, to obtain an experience in exchange for some economic contribution after which they move on to "do" another experience. The economic contribution of these people can be considerable, however their community and cultural contribution is negligible and they are generally a drain on the social services of the communities that they visit.

LEADERSHIP AND CHANGE

Reflecting on all that the Government did in various planning processes the question has to be asked why were a significant proportion of the Gascoyne community disaffected by the change process. Was it as the government bureaucrats maintained, that the locals were expressing self-interested, sour grapes views because they have lost their land and someone else would be making money out of it? Or were there deeper issues unfolding that, to date, had not been discussed in any of the available forums.

To understand what was occurring it is important to distinguish between *planning* and *management*. Planning is about where things are placed in the landscape and how they are used. Management is about what is done in

the landscape, who does it, and for what objectives. This is a crucial difference and is discussed in detail later in this chapter.

Planning and Narratives

The *planning* for the coast was enshrined in the *Ningaloo Coast Regional Strategy (2004)*. This *Strategy* was the result of a planning process run by the WA Planning Commission over an approximate 18-month period in 2002 – 2004. The document had been given an award by the Planning Institute of Australia and was used as a model for other parts of Australia. A large amount of consultation during the preparation of the *Strategy* included receiving submissions, public information days and workshops.

The development of the *Strategy* demonstrated that there had been an increase in the community's understanding and expectations of sustainable development. This transition can be seen in two visions that were put forward for the Ningaloo coast. The vision in the Gascoyne Coast Regional Strategy, written in 1996 (bold emphasis by the author), was:

*"To develop the [Carnarvon-Ningaloo Coast] into a **tourism region of international significance** focussing on its unique natural features. This would be achieved in a manner that is ecologically sustainable, retains the sense of wilderness and provides local and regional economic and social benefits. The development of existing and new industries which are complementary to this vision will be encouraged"* (Ministry for Planning & ERM Mitchell Mc Cotter & Associates, 1996 p.107).

The vision of the Community stakeholder group that worked as part of the planning for the Ningaloo Coast Regional Strategy in late 2002 – 2003 (bold emphasis by the author), was:

*The Carnarvon-Ningaloo Coast is **an internationally recognised sustainable (social, economic, environmental and spiritual) success**, which combines the preservation of ecosystems with low impact tourism. This is achieved through a management plan for conservation and public usage that is well funded, protected by legislation and supported through education and the wisdom of heritage* (State of Western Australia, 2004).

While these two definitions may be similar there is a subtle but important difference in the recognition of the place and breadth of sustainability in the minds of the community and the underlying narrative for the future of the coast.

Failure of modern-classical mode of planning

The *Strategy* identified a hierarchy of tourism development nodes along the coast that largely reflected the existing use patterns and gave the opportunity to comment on a small number of variations in sizes of the nodes. However there was no real opportunity to look at options other than tourism in predetermined locations, and no opportunity to discuss how the coast would be managed and for what objectives. Essentially the consultation

process said, “We have four flavours of ice-cream, which flavour do you want?” And generally everybody, including the locals, said, “I want ice-cream” but there was little or no opportunity to say, “I want something other than ice-cream”. The *Strategy* also contained a large number of aspirational statements about supporting sustainable development of the tourism nodes – avoiding big resorts, using renewable energy, keeping things looking natural, and recycling grey water. The community also liked these but there was little in the document about how these would be achieved. From a State, national and international perspective the release of the *Strategy* achieved a number of things – the Maud’s Landing resort was gone, Ningaloo had been “saved” and the Government had a strategy for small low-key resorts dotted along the coast. This was acceptable to most sections of the Western Australian community including most of the locals.

Management in space and time

Despite the reasonable level of acceptance of the *Strategy* by the community, from the local perspective the sleeper in the *Strategy* was the consideration of *management* of the area. How events unfolded and the leadership models that appeared to have been used are discussed below. In the *Strategy* management of the coast was considered in one consultant’s small and rather superficial report that looked at a number of management models used for similar areas around Australia. This report then metamorphosed into one paragraph on page 182 of the *Strategy* that stated that the exclusion strip would be vested in the Conservation Commission, which effectively meant that the coast would be managed by CALM/DEC with the tourism nodes being managed by the Department of Planning and Infrastructure (DPI). The *Strategy* said a lot about which of the tourism nodes should be developed, it said virtually nothing about how the landscape would be managed or how the development of the nodes would occur or be facilitated.

From the regional perspective the Government invested a huge amount of resources into planning the coast¹⁰³, and, while the consultation that was done was mainly of the kind “we have a good idea – do you agree” type of consultation, at least it did occur. The Government invested virtually nothing into consultation about how should the coast be managed, or into developing methodologies about how this could occur, preferring to opt for the “we will give it to CALM/DEC because they know how to do it”. This outcome was acceptable to the people of Perth and the visiting tourists who wanted to “do” Ningaloo; the locals considered that they had to live with the consequences of these decisions into the future.

Unfortunately CALM/DEC bashing is an easy sport in the Gascoyne because over many years the bureaucracy’s behaviour in the region had demonstrated many classic, textbook examples of “how not to interact with your clients and neighbours”. This coupled with, or because of, an aggressive corporate culture within CALM/DEC, created an unhappy state of affairs for those interacting with DEC. But such criticism is too easy. CALM/DEC had been trying to do a job to meet the Government and communities’ objectives for nature conservation and recreation. What needed to be examined is: why did CALM/DEC behave as it did and why was this resisted by the local Gascoyne community? Similarly, why did an award winning, WAPC driven planning *Strategy* flounder in its implementation?

¹⁰³ Estimates put the cost of the Government’s planning process and staffing in the vicinity of A\$1m

It is important when considering these questions to look at the underlying business model on which an agency such as CALM/DEC or DPI is based. Essentially both operate within a *service delivery model* where the leadership is highly systematised about identifying and implementing pre-determined strategies, reflecting the characteristic components of the modern-classical model of management; small wonder that this process only added to an already wicked problem. The Government has charged DEC with the task of providing a nature conservation and recreational management service, and DPI with allocating land within a planning framework. This service is paid for from consolidated revenue, grants or charging fees for service e.g. entry to national parks, licences, and there are never enough funds to do what needs to be done. Historically DEC has been forced to adopt a “protect the jewels and let the kingdom rot” approach to nature conservation and build a Comprehensive and Adequate Reserve (CAR) system of reserves that protects 15% of the area of representative ecosystems across the State. CAR was a policy construct that developed in the 1990s Labor Federal Government’s Regional Forest Agreement process in the 1990s and has since evolved into a de-facto policy standard for nature conservation in Western Australia.

From the perspective of other land managers in the Gascoyne this focus was too narrow. They considered that communities locally, nationally or globally, could no longer afford to let the world’s ecological base continue to be degraded. While protecting species diversity was seen as vitally important, it was considered short sighted for governments and the conservation movement to assume that just because they were pouring resources into conservation bureaucracies to protect the biodiversity of small areas of the landscape they were making any realistic contribution to stabilising and repairing the world’s ecological base.

The Gascoyne land managers also considered that DEC’s capacity to attract resources, establish and promote its profile and control the legislative and policy agenda for its own corporate objectives seemed unfair. They considered that nature conservation and biodiversity protection should be an important subset of managing the landscape for ecological sustainability rather than a peak achievement around which all else was left to fend for itself. They considered that DEC presented itself as having the skills and expertise to deliver what the Government wants and to keep the voters in the capital city happy, but it also dismissively squeezed out of the policy arena any alternative landscape management models that, in the long term, may produce better ecological and community outcomes. The local community saw the DEC service delivery model as creating social and economic cost that was borne by the local community, not the Perth or the tourist community who only came to the region to “do” Ningaloo.

Leadership and democratic process

Some local groups, including a significant number of local Shire Councillors, saw the imposition of a WAPC sponsored planning scheme as steamrolling the region into a framework that suited the State agenda but created unacceptable costs for the region. These costs are discussed below and largely reflect a loss of local democratic process. When a region such as the Ningaloo coast comes under DEC control local democratic accountability ceases. The local community could not vote on who should represent them on any management bodies, vote on

whether management plans are acceptable, sit in on meetings or talk to their local representative about their concerns. Any management boards are government appointed and rely on ministerial or departmental recommendations for their membership.

Under DEC management, the community generally only got an opportunity to comment on a draft management plan prepared once every 5 – 10 years, and the consultation around the management plans is generally a “which flavour of our ice-cream do you want, give us your written comments” style of consultation. There is no opportunity to stand around a table as a community and discuss how they want the landscape to develop and evolve and examine the community’s role in this evolutionary process.

The planning situation was somewhat different where there was a statutory requirement for the Shire and the WAPC to work together to produce a coherent planning framework for the region and this was an accepted part of the planning process, despite the greater attention that the *Strategy* brought to the region. While it was legislatively enforced it did at least broker a kind of collaborative leadership approach.

The corollary to the question of the impact of DEC’s presence in the democratic process was whether the planning and consultation processes used in the development of the *Ningaloo Coast Regional Strategy* reflected a commitment to democratic process. Consultation is considered to cover a spectrum of activities from providing information, through to seeking input and comment and to full empowerment of a community to determine its own ends. As a general observation most of the consultation undertaken in the preparation of the *Strategy* sat towards the end of the consultation process that provides lowest levels of empowerment of the community, i.e. mainly providing information, seeking comments and input to workshops. These consultation methods also enable DEC and the DPI officers to hold power within their agencies and in the decision-making processes.

In addition it also appears that there was a small group of bureaucrats spread between DPI, DEC and the Minister for Planning and Infrastructure’s Office who wrote and implemented the *Strategy* and kept a very tight rein on the flow of information to the community, and from the community to various government committees and decision makers. Essentially the local community perceived the preparation of the *Strategy* as a bureaucrat-driven process to progress an agenda that had been developed between these officers, even though the rhetoric from the agencies was about consultation, and local engagement. From the local community’s perspective this, and particularly the outcome around management decisions, did not represent operation of a democratic process.

The question must be asked, why did this occur? Aside from some personality issues discussed below, it appears that the bureaucrats had already made most of the decisions about how the Government would “manage” the Ningaloo problem and how the big, long term objective of moving the Ningaloo Reef into conservation status would be achieved. It also appears that NSDO/DPI perceived itself as having a development strategy in place (Department of Planning and Infrastructure, 2003 p.4) , that it been given the responsibility for the development process, it had ongoing community representation on its decision-making board, the *Ningaloo*

Sustainable Development Committee (NSDC)¹⁰⁴, and consequently any future collaborative planning processes were unnecessary. In addition to this it also appears that because of the levels of local community disaffection with the exclusion process and opinions about DEC/CALM's presence on the coast, DPI/NSDO sought to have a very tight rein on the process to avoid any initiatives moving outside the course that had been predetermined by the bureaucrats or might embarrass the politicians.

The lack of breadth in the decision-making process surfaced fairly soon in the consideration of the initial applications to develop tourism facilities along the coast. While the *Ningaloo Coast Regional Strategy* made many aspirational statements about sustainable development it was, at its heart, a strategy not a planning code, and the only mechanism available for interpreting the potentially conflicting values that the *Strategy* threw up was interpreted by the three NSDO/DPI and the CALM/DEC officers who were assessing the projects. There was no attempt to bring a methodology or framework for assessing the sustainability of a project that accounted for or allowed a comparison of social, economic and ecological costs and benefits. Consequently the project design costs were high as the designers had to undertake an iterative process whereby they slowly homed in on what the government officers "felt" the interpretation of the *Strategy* should be. This could have been short-circuited by using more collaborative design process, however as stated previously there was no framework in which this could occur and where no framework exists the design can not occur (Sharma & Kearins, 2011).

It was at this point that the government initiatives to develop the Ningaloo coast began to show evidence of stress and breakdown. While there were a number of teams operating to plan the coast, they were substantially agency-driven with common players (DEC, DPI, Tourism WA) between the teams. In addition the role of industry and the community was significantly marginalised to sitting on advisory committees or on decision-making boards that had a number of layers of bureaucrats filtering information into and out of these boards. In addition there were serious measures taken by officers of DPI to ensure that local opportunities for collaborative planning were kept under control and/or did not become fully operational¹⁰⁵.

Inconsistencies in accountabilities

The *Strategy* talked about the need for sustainability indicators to be applied to the tourism development nodes. In the 2006 Senate Committee (Government of Australia, 2006) hearings on management and resourcing of national parks senators that favoured progressing biodiversity protection under DEC's management model expressed strong preferences for making sure that other land managers, including pastoralists, were accountable for their environmental bottom line. The State Government at that time was also implementing changes to pastoral lease arrangements that institutionalised the requirements for pastoralists to report on Triple Bottom Line (TBL) performance. Some of the local Gascoyne community that attended these hearings considered that TBL should be for all land managers and were concerned that DEC only had obligations to address nature conservation and recreation management performance within the boundaries of its lands. DEC was not

¹⁰⁴ *Ningaloo Sustainable Development Committee* which had referred planning powers from the Western Australian Planning Commission

¹⁰⁵ One committee was created to discuss a coordinated approach to one section of the coast, "The Quobba Precinct Committee" Shire of Carnarvon, June 2005. This project did not continue as it was not supported by DPI/NSDO. Around the same time DPI/NSDO proposed to create the Ningaloo Coast Advisory Committee to assist with development along the coast, which did not eventuate. This situation is reflective of the analysis in (Western Australian Parliamentary Hansard, 2008) which describes how different ideological framing by people and organisations who are attempting to collaborate on sustainable developments can create major conflicts and tensions.

accountable for the economic or cultural impacts that its activities had on local communities within and around the lands that it managed. They considered that DEC should not be excused its TBL accountabilities just because it was a government bureaucracy or because its core business was in nature conservation.

Loss of culture and narrative

When land comes under DEC control local culture is replaced by a policy-driven, corporately badged, “client-service provider” relationship. The informal friendships, guest-host relationships between landowners and visitors, idiosyncratic signage and structures that are valued by local community and visitors disappear. This loss was seen as a loss of cultural identity, community strength and cohesion. This was particularly true when considering that the local community differentiated between a visitor who had some kind of personal identification with the community, culture and landscape of an area they were visiting, and a tourist who paid for an experience while they were “doing” a particular location. National Parks were seen as providing for tourists not for visitors. Similarly the WAPC stated position that the new development nodes would be made available under tender raised fears that the recreation points on the Ningaloo coast would be corporatized/privately owned, and recreational use by locals would become a user pays service.

DEC did not have a good record of integrating its management of the landscape with surrounding land managers. This, as has been discussed above, was very apparent on the Ningaloo Reef where the two kilometre exclusion strip appeared to be predicated purely on the easiest and most simplistic approach that could possibly be taken to protect the marine park.

Similarly the *Ningaloo Coast Regional Strategy* and DPI management of the nodes did not appear to integrate with other regional development strategies such as regional economic development, local cultural development or local landcare activities. The economic model underlying the *Strategy* assumed that if tourism development occurs there will be a trickle down of economic benefit to the region but, beyond this, there was no apparent consideration of how to maximise economic development benefits or enrich the region’s social and cultural life through the changes on the Ningaloo coast. There was nothing that demonstrated that the leaders in the change process were willing to think outside of their actions and the geographic boundary that they had imposed on the coast or to become part of the narrative that was unfolding around them.

SUMMARY – LESSONS?

The local community expressed its dissatisfaction with the service delivery approach to management in many different ways, and were often described by the bureaucrats as “whinging locals”. Unfortunately the bureaucrats did not appear to have made any attempts to challenge the service delivery paradigm or look for alternative models. Alternative models suggested by the community were met with condescension and at times outright derision.

In the four years after the release of the *Ningaloo Coast Regional Strategy* and the commencement of the negotiations around the exclusion process events moved slowly. At the time of writing (2008) the Ningaloo Sustainable Development office, consisting of three senior DPI personnel and senior DEC officers have been seeking to further the Government's agenda for the Ningaloo coast. The outcome is that two of the five pastoral stations have not agreed to early release of the exclusion land, two negotiations over the exclusion are still progressing albeit very slowly, and one is partially resolved. There have been significant planning improvements with new infrastructure being installed at the town of Coral Bay and various tourism developments have been constructed in Exmouth town. Outside of the major towns, one new development project for the Ningaloo coast was approved and one was rejected by the NSDC. Whether this can be considered a successful outcome is difficult to ascertain however it can be questioned why, given the number of government officers in both DEC and DPI, a budget of over \$1 000 000 for implementation and strong political support from within Government, more had not been achieved. The Shire of Carnarvon also suggested that the overall management of the development of the coast should be passed to a specific development authority rather than being managed by individual agencies; there is considerable disaffection between the Shire of Exmouth and DEC, and one of the senior government officers associated with the process was under investigation for unprofessional behaviour.

As has been discussed earlier the spectrum of Heroic to Consensus Leadership styles can be used to analyse what happened in this process and, particularly, the type of leadership generally shown by the Western Australian Government and specifically the officers from DPI and DEC/CALM who drove the development and implementation of the *Ningaloo Coast Regional Strategy*. The major features of each of the first two models are discussed below.

Overusing heroic leadership

The NCRS and related processes were clearly agency driven with strong pushes from bureaucrats within the nature conservation agencies to protect the Ningaloo Reef. Similarly these emergent leaders were largely within middle management who had been able to engage the executive level of their departments and ensure that their interest in improving the conservation status of the Ningaloo Reef was enshrined at the policy level of both Liberal and Labor Governments.

While the task given to the three DPI officers that constituted the NSDO and a number of senior CALM/DEC officers was difficult to implement, the leadership mindset of these officers could best be described as reflecting a strongly heroic "football coach" model of leadership which assumed that there was a team of players with disparate skills who have to be cajoled, encouraged, and bullied into working as a team in accordance with the coaches' vision of how the game should be played. The effect was as Bouwhuis describes where the leader "...comes ... with a vision of what society should be, with people just accepting and following this vision." Not unexpectedly, the local people tended to see the Government leadership as football coaches rather than visionaries, despite however the Government officers saw themselves. The perceived need for very close control over the development of the region by the Government officers, coupled with the football coach mentality led to the highly unfortunate situation where one of the officers was being formally investigated for professional

misconduct stemming back to bullying and threatening behaviour, and misrepresentation of ministerial opinion, all of which had been done in their self-perceived role of overseeing the development on the Ningaloo coast.

The ecological ethic of the government officers could be described as 1970/80s environmentalism coupled with a particularly negative view of human nature. An unfortunate, but telling, statement was made at a planning workshop where one of the government representative stated “*when assessing a project you always have to assume that the proponent is motivated out of greed, has no concern for environmental matters or is just plain stupid*”. The reality, with respect to the community’s opinions about the environment and sustainable development as is discussed above, was not characterised by anti-environmental attitudes or a rapacious desire to maximise economic profit. There did not appear to be any real evidence of the transformative leadership that could have been exercised and the environmentalism of the Government officers led them to see threats that were either non-existent or grossly over-exaggerated in their own minds. Later in the life of the NSDO a new officer moved into its operations. This person had a background in industry and community development, and brought a different suite of skills that began to move projects forward on a more consultative and conciliatory basis.

At times the government officers appeared to let their interest in furthering their departmental policy objectives compromise their commitment to the social cultural or economic development of the region as was articulated in the statements by the local people who attended the community consultation, as was reflected in the vision statement described above. Once again consensus models would have been more productive and transformative. While it is highly probable that they did believe that overall good would come from their actions the constraints of their departmental silos did not allow any practical action to support regional cultural or economic development.

Modernist planning does not solve Wicked Problems

While the Ningaloo coast was a wicked problem there had been examples, even from within the Gascoyne Region, where alternative approaches to similar problems had already been tried and found to work, including – the Australian Federal Government’s Natural Resource Management strategy to deploy the funds through the Natural Heritage Trust; management approaches advocated by the World Conservation Union (IUCN) as best practice to manage ecosystems; and in charette (Inquiry by Design) by style design used in the planning of new towns. None of these methodologies were exceptionally new, consequently the question has to be asked: Why, when the *Strategy* made such a strong commitment to the principles of sustainable development, did the government officers not choose to try to develop and implement such models? A number of reasons can be suggested all of which point to an over-reliance, and retreat back to, a modernist framework for solving wicked problems and as with all such problems the solution only exacerbated the wickedness of the problem. These reasons are discussed below.

Loss of sight of the goals – the intent of the transition of land tenure was to protect the Ningaloo Reef, control human access, bring the management of the reef under long-term nature conservation status, set up the necessary monitoring to protect the condition of the reef, and provide permanent access to recreation/accommodation opportunities along the coast. There were many different ways of achieving this outcome. It seems that the government officers came to an early predetermined formula about how this would be achieved and they rigorously pursued implementing this formula rather than focusing on the best way to achieve the goals. This is reflective of comments by Sintonen and Auvinen (2009 p.107) pg. 101 comments on the importance of narrative, and “*that stories have power to lead*”.

Insufficient knowledge base – the people in the core decision-making areas did not know about alternative ways of achieving management objectives and appeared to largely be applying a traditional government agency based management formula.

The political stakes were too high – because of the fractious nature of the pastoralists and the Aboriginal community, the scrutiny by the anti-resort activists, and the disaffected Shires the Government officers had to keep close control over the process to avoid any criticism of the Government

The policy decisions had been made – despite all the rhetoric and consultation the major decisions about what would happen on the Ningaloo coast had already been made within the bureaucracy and all that was left was to implement them.

Person accolades and power – the high profile of the Ningaloo coast created an opportunity for government officers to make their reputations through ensuring a positive outcome for the Government on the Ningaloo coast, opening up the process and divesting power could have been very threatening.

Too inefficient – one of the criticisms of the consensus style of leadership is that the processes that emerge can be seen as taking a long time to finalise and the outcomes that develop may not be the desired outcomes. Given that CALM/DEC wanted to proceed as quickly as possible to gain control of the coast undertaking such processes may have been considered to be too slow and uncertain. This opinion however has to be taken in the context of the limited progress that has actually been made, see the comments above.

Too difficult – compared with the effort required to innovate a new, region-specific, strategy that responded to management needs and objectives; the DEC/DPI *Strategy* was considered, in theory, relatively easy to roll out as it was based in well established policy, procedures and frameworks. Inventing anything else would require too many changes for these institutional structures.

Authentic leadership?

The discussion in the introduction pointed to the need for leaders to be authentic in their leadership irrespective of whether they are operating in the heroic or consensus model. Evaluation of authentic leadership requires

insights into internal values, ethics and framing of praxis and since we did not have this level of access to the key players in the drama and only had observation of what occurred it is difficult if not impossible to make judgements about the authenticity of the Government's leadership. Despite this, based on the above discussions it may be suggested that the leadership of the change on the Ningaloo coast could have benefited with some reflection about authenticity. There were ample examples where, whether the leadership style was heroic or consensus, the end result did not reflect the desired outcomes and in many cases fuelled the wickedness of the problem. This would appear to reflect a cognitive dissonance between beliefs, values and practice.

Whether this will continue to be a major problem into the future or whether the regional community will adapt and accept can only be monitored over time. It appears that there is a need for leaders who are considered authentic in the region and that "consensus" based planning models, particularly of long-term management, would greatly help to resolve many of the issues facing the sustainable development of the coast and the impasses that are creating the slow pace of change, and would have produced a better quality and more sustainable outcome for the region. There is also a need for leaders that understand that if a large number of narratives are converging and creating a wicked problem then the most likely form of initial leadership mode would be to be highly heroic in calling *attention* to the convergent narratives, and then rapidly resist the temptation to be singularly heroic within one narrative but move into more consensus styles to help the group to identify and synthesise their narratives.

So this discussion of the leadership of a sustainability designer has to be ended by noting strongly that the designer needs to be able to facilitate both heroically and within consensus frameworks. The key factor however is that they are authentic in what they do. The next chapter moves into the question of how a designer creates something in the real world such that their leadership is about action and positivity not just aspiration.

Chapter 9 – Physicality

INTRODUCTION

Sooner or later the designer has to move from concepts and aspirations about sustainability to projects in the real world. These can be actual physical entities, for example a green building; or processes, procedures or organisations, which, while they lack an inherently physical form, exist in the physical world rather than just as abstract concepts. The term *physicality* is used as a metaphor for the action of converting ideas, thoughts and aspirations about sustainability into something tangible. Before looking at the case study, the design for an ecotourism resort on the Ningaloo coast, we will first consider how others have approached this translation from aspirations into physicalities and then look at what can be added from narrative identity to enrich this discussion.

The discussions of translating aspiration into physicalities have some common features:

- Most of the models of the design process emphasise some form of cyclical behaviour and continuous improvement,
- Aiming for “fitted-ness” or being “fit-for-purpose”
- Produce something, either an artefact or process
- Are underpinned by some guiding principles or objectives of what is sought to be achieved

These models can be considered under three main groups. The first could be described as the “cook-book” approach. In general these approaches are linked to artefacts and production processes rather than procedures and organisations and, while giving general assent to sustainability goals, there is relatively little discussion of underpinning values. When these are discussed they are often linked to physical sustainability issues such as resource depletion, toxic wastes or climate change. Various authors present a range of schema that, if followed, they assert will produce sustainable artefacts although there is often disagreement about the schema. For example Sintonen and Auvinen (2009 p.107) contrast using Eco-Design approaches¹⁰⁶ with their more flexible, generic and customisable “Ten Golden Rules”¹⁰⁷ to make production of artefacts more environmentally sound. These ideas can also be extended to sustainable production and industrial ecology (Ashford & Cote, 1997; Chertow, 2007; Côté & Smolenaars, 1997; Korhonen & Snäkin, 2005). In urban design and architecture the same cookbook approach can be found. Yeang (2006) p.22 developed a comprehensive ecodesign manual for designing buildings and cities and states “*Simply stated, ecological design or ecodesign is the use of ecological design principles and strategies to design our built environment and our ways of life so that they integrate benignly and seamlessly with the natural environment that includes the biosphere*”. A less technological and softer approach to architecture and urban design was taken by and fine grain detailing of urban spaces by Alexander (1977)¹⁰⁸ and Jan Gehl (2011). Beatley, (2011); Kellert, Heerwagen, and Mador (2008); and Mehaffy, (2012) extend the idea of sustainable buildings into biophilic design through a close interlinking of

¹⁰⁶ Generally these are of great fascination to engineers who wax eloquent about techniques, tools and design processes - for example (Government of Australia, 2006) describes how Eco-Design guided “the development of a five stage ‘applicability framework’, this study demonstrates how a compatible suite of tools can be identified for application to product development processes. Testing and validation of this ‘applicability framework’, which was used to identify three key eco-design techniques; namely checklists, guidelines, and a material, energy and toxicity (MET) matrix,....” . Zuidwijk and Krikke (2008) talk about the complexities of the EU Directive on Waste Electrical and Electronics Equipment and describe eco-design as covering “Design for Disassembly and Recovery (DfX) and Product Data Management (PDM)” amongst a range of other accounting procedures. Clearly acronyms and jargon rule!

¹⁰⁷ Such as - minimise resource and energy consumption, minimise weight and materials use, design in upgradeability and so on

¹⁰⁸ In his landmark book, “A Pattern Language” Alexander presents over 200 “patterns” to guide a human centred architecture and urban design

nature and human structures where buildings and cities become the architecture of natural systems. Tovey (2012) uses a “user-focused” approach to guide the design of transport systems emphasising that by allowing the user to imagine what they would like from a transport system the designers can be guided to deliver the product.

The use of the term “cook-bookers” is overly simplistic as most of these underpin their prescriptions with values that frame their investigations. The contention however is that these underpinning values are often not deeply reflected upon, or sometimes not well articulated, and are just more related to giving general assent to global values. While the strength of this approach is that it enables things to be initiated and made operational without reflection on underlying values these initiatives can continue, unintentionally, to perpetuate wicked problems.

The next stage on from the hard, technological edge of the cook-bookers could be described as “structuralists” who are more willing to bring underpinning values to the fore and include analysis of societal structures and values into the discussion of creating physicalities. Geels (2004) frames sustainability within systems and innovation and considers that sociological and technical approaches need to be merged to integrate transitions to sustainability. Geels (2004) and Elzen (2004 p.90) talk about a “selective blending of theories of practice and technology to guide...” sustainable design. Yoshikawa (2008 p.169) frames the question for sustainable design within the study of “*Synthesiology is a term for the theory of integration of scientific and technological knowledge from different disciplines with the needs of society*”. In his book *Design Futuring*, Fry, (2009 pg. 71) presents the idea of sustainability design as a redirective practice where the practitioner reframes, refocuses and reconnects design practice to produce sustainable outcomes. Initially Fry begins with a somewhat cook-book approach addressing areas such as food production and cities, protection against climate change and recognising that cities can operate as a metabolism. He then moves into consideration of deeper structural issues such as how design can be used to reframe values, shift cultures, questions of ethnocentrism and embodiment of ethics in designs. Walker (2011) and (2012), as was discussed earlier in Chapter 3, links the human quest for meaning and its interpretation within material culture with a new conceptualisation of a lower consumption path of sustainability. For Walker, design provides the framework for greater meaning and responsibility for creating such a future and explores personal design process, tacit knowledge, ephemeral design, experimental design, and the relationship between intellectual design criteria, physical expression and aesthetic experience (Walker, 2006). It is this style of framing that is examined later in this chapter.

The final group that can be considered are the “destructionists” – those that advocate a revolutionary and often violent removal of the existing world order and a replacement by a new sustainable world order (Boggs, 2012; Holmes, Townsend, & Foster, 2007). In the context of this thesis there is little positive that can be said about this group other than if they have their way there will be lots of opportunities for post-conflict, sustainable reconstruction. There is an interesting alternative to the concept of destructive revolution by Edwards (2005) who sees sustainability as a world-wide revolution (in the sense of dramatic change rather than destruction and reformation) of interconnections, with similar intentions and objectives, being large and diverse in scope, covering a wide range of issues, having decentralised leadership, and also living with oppositional and alternative actions.

So the question now arises, what can Ricoeur's understanding of narrative identity add to the above discussion. This contribution can generally be considered in five areas. Firstly, although not a specific idea from Ricoeur, the idea of sustainability design addressing wicked problems helps to define what we are, and are not, doing. This does not mean that sustainability designers avoid non-wicked problems, rather they should be able to claim a particular area of expertise when other less critical problems are being addressed by others. Secondly, to be effective design needs to have the parallel streams of examination of values, and deductive processes. Narrative is a useful way to capture and communicate values and aspirations throughout the design process rather than an initial and superficial framing by short mission statements, that are so open-ended they allow modernists free rein to impose their personal design solutions. The discussion in the previous chapter highlighted this situation. Thirdly, Ricoeur's idea establishing...*(1) the primacy of ethics (the aim of an accomplished life) over morality (articulation of this aim in norms), (2) the necessity for the ethical aim to pass through the sieve of the norm, and (3) the legitimacy of recourse by the norm to the aim whenever the norm leads to impasses in practice ...* provides a way of reconciling the relationship between the narrative and the practical design constraints. In other words the design process should be a continual referencing and refining design as it unfolds against the narrative and this refining and referencing needs to consider the big ethical values that underpin sustainability.

Fourthly, Ricoeur sees the importance of narratives in time; he says: *The reason is that it (the dual nature of identity) is raised to the level of a problem only after the temporal implications have themselves moved to the forefront. Indeed, it is with the question of permanence in time that the confrontation between our two versions of identity becomes a genuine problem for the first time (Ricoeur, 1992 p.116).* The implications for a designer are that they have to consider their intervention as existing in time and space, that what they design comes into a real context and will persist as part of an unfolding reality into the future. It is not a modernist imposition without reference to context. From this a general principle can be developed, that in sustainable design there should be no major discontinuity in the narrative and if circumstances require such a discontinuity there should be a clear and accessible process for assisting communities and cultures and, it can be suggested, environments and economies, with this transition.

Fifthly, Ricoeur recognises that we are not living within linear, cause and effect relationships. As he says *"These are no longer linear relations like the ones we have just examined but nesting relations. Now this series of nesting relations – hence relations of subordination of partial actions to a global action – is joined with the relations of coordination between systemic [structure] and teleological [direction and purpose in time] segments only to the extent that*

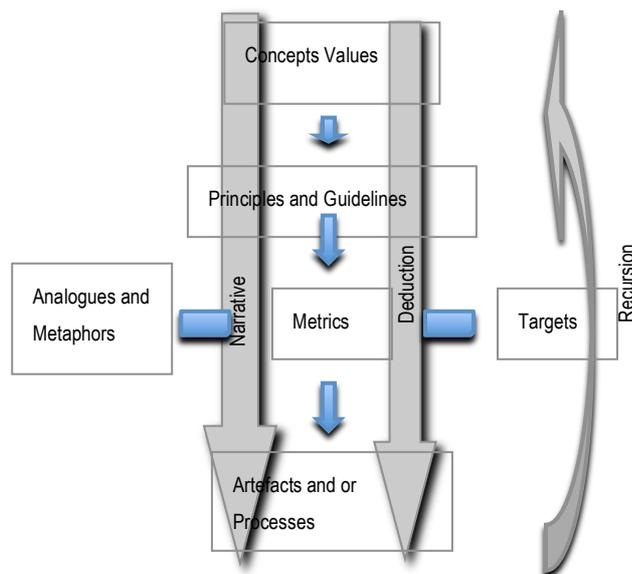


Figure 3 Design Process Model

both sorts of connection are unified under the laws of meaning...[of the particular practice](Ricoeur, 1992 p.154).
This idea of nested relations is captured in the idea of recursion discussed below.

The model developed for this chapter as illustrated in Figure 3 synthesises these ideas. Each component of the model is discussed below.

Narrative – Building the Story

Concepts and Values are those assumptions and value-laden ideas that underpin or drive what we want to achieve. There is often a degree of fogginess about these and they are often in conflict. Without conscious articulation and attention they have the potential to lock the design into an unresolvable hiatus particularly when they are generated by one person or are not articulated within a group. A solution is to move the focus away from a singular set of values that was used to formulate the problem and into an alternative value framework that reflects Ricoeur's idea of unfolding narratives; put simply we begin to tell the stories about the project rather than holding our stories but being unconscious about them. The important thing for the designer is to be able to identify and articulate these underpinning concepts and say "... This is what we are about... And this is where we got our ideas". This is the first step in understanding our personal and collective narratives and how these may impact on the design process. Without clarity about the ideas and concepts, even if they are in conflict, it is difficult to start to convert the ideas and concepts into principles and guidelines.

Once the concepts and values have been developed the design process can be broken into two interconnected realms – a deductive *and* a narrative space. The *deductive space* is one that can generate Principles and Guidelines, the "if we value this ... therefore we are likely to do that" statements. In this space the designer is more likely to be the outsider¹⁰⁹, as was discussed in a previous chapter, observing, drawing conclusions, inferring predictions and evolving structures. The *narrative space* is the one that enables an unfolding of threads of stories that create a past and a future. In the narrative space the sustainability designer is an insider enmeshed in and contributing to the unfolding story and, as such, takes on far greater moral responsibility for their actions, but at the same time is in far less control of the process. They have to work in concert with others and accommodate many factors, not only what is in their own control that will affect the unfolding of the narrative. If we choose not to be aware of this context and our role in shaping the future the designer runs the risk of hubris by being so overwhelmed with their own assessment of their capacity that they damage both themselves and the world around them because they seek to reshape the world in their own image without reflection or consequence. As Gehl¹¹⁰ comments, too many designers ignore the narrative context of their work.

The Principles and Guidelines are the step from the agreed concepts and values towards an entity that exists in the world. They are foundation design statements that "set the scene" and pave the way for metrics and targets

¹⁰⁹ See the discussion in the chapter about Intervention and the roles of outsider and insider

¹¹⁰ An example is made by Jan Gehl about Frank Gehry - "'I don't do context,' was Frank Gehry's response when asked about his adaptation of the new School of Law to the campus at Case Western Reserve University in Cleveland. Many excellent arguments can be made in defence of his unique building which takes strength in its departure from its surroundings. It can occasionally be refreshing when a building does not insist on a friendly conversation with the people entering or passing by. However, it can be too much of a good thing when Gehry's, great and small, drop buildings onto streets and squares from great heights without concern for the noticeable people environment". (Gehl, Kaefer, & Reigstad, 2006; Edwards, 2005 p.9)

to be attached. They also tend to operate in the deductive space. For example during the design of a consultation process a principle may be established that "...we value common understanding between people (the concept and value) so when we interact with the community we will always report back in writing (the principle) so that there is common agreement about what was said". A guideline is like an active control or direction-determining statement, such as "... as a result of this development we will ensure that 70% of city parking will be returned to urban food gardens". It is at this point that the conflicts between the concepts and values begin to be integrated, however this process of integration is far from complete and will be subject to the recursive processes as is described later.

Ideally there will be a linear linkage between the concepts and values, and the principles and guidelines, however it is often difficult to find a workable linkage because guidelines and principles require an evidence base. A limited knowledge base manifests with a unsettling feeling of "I should know about this..." or "I think someone did some work on this". Alternatively the links between the concepts and values and guidelines and principles is a new frontier work and represents uncertain territory for all those involved in the discussion¹¹¹. Resolving a limited knowledge or evidence base is not always an easy issue and will always be constrained by the time and resources available to access or build the knowledge base. Consequently when meeting these situations of uncertainty the designer needs a degree of humility and to pay close attention to the role recursion can play in discovering new insights or filling knowledge gaps, as is discussed below.

In parallel with working in the deductive space on principles and guidelines the designer also has to enter into the narrative space of the design. The narrative space is the capacity to realise that the story that is unfolding around the design is occurring on many different stages¹¹² onto which the designer is entering, and to work upon and to craft a new future. As is implied the narrative is not a static thing or only one story, rather it is a multifaceted, interconnected web across which we are crossing and changing as we go. While the deductive space is articulated by Principles and Guidelines the narrative space is articulated by analogues and metaphors that are things that call upon memories and imaginings – "I think it should be like..." or "I feel it should be similar to ..."

Analogues, targets and metrics

As the designer moves towards the physicality or reality of their design they will oscillate between the deductive and narrative spaces. The next stage in this refinement process is developing analogues, targets and metrics. Metrics are easily understood as things that can be measured – *x number of people who are infected with HIV, or y m² of city buildings with solar panels*. Targets define how metrics are used, for example – *we will convert energy use in the house to 100% renewables*, where in this case the metric is percentage renewables.

¹¹¹ An example of this is the current reassessment, at a philosophical level of the relationship between animals and the world – see Jacques Derrida *The Animal that I therefore Am* (Derrida, 2002) and Peter Singer's *Animal Liberation* (Singer, 1991). Animal liberationists are very actively pursuing an abolitionist position on use of animals for human food, which in turn is provoking a response from food animal producers. This illustrates how society is working at the frontier of knowledge, but is currently largely unresolved, in attempting to produce a workable consensus on the relationship between animals and humans that is different to what has occurred in the past.

¹¹² These can be for example; community, artistic, spiritual, landscape, economic. Chapter 10 talks about creating a Forum where this work can be done.

Analogues are more closely aligned with narrative in that they are metaphorical, *like something else*, *analogous to*, *behaving like* or *carrying the essence of*¹¹³. Being able to use analogues, targets and metrics in the context of a narrative, concepts and principles strengthens the likelihood that a designer will produce something that is a credible and workable intervention and that represents the synthesis of a new narrative from the old convergent narratives.

It can also be suggested that while analogues, targets and metrics are the produce of a linear process in space and time they also have a horizontal interrelationship where an analogue helps define the target to be measured or assessed by a metric. For example in the case study below, trying to work out how to accommodate a certain number of people in a particular location led to analogous thinking about how similarly shaped geographic areas in other locations had been able to house similarly large numbers of people.

Artefacts and Processes

These are the output of the design process and refer back to the comments made at the start of this discussion about the relationship between physical entities and processes. The reality is also that the creation of artefacts and processes does not exist independently as tends to occur in a modernist approach but rather, as is illustrated in Ricoeur's work, interact with each other. This process of interaction leads to the next concept of recursion.

Recursion

Recursion, in this context, carries the idea of using the design process to learn from what has gone before and reapply it in new contexts. It is about being willing to reflect upon and change all the components of the design, including the concepts and values, if the overseeing role that is part of the recursive process appears to be showing that the gestalt, or the assemblage of all the activities, will produce something more fitting to the circumstances¹¹⁴. In essence it reflects Ricoeur's idea of nested relationships discussed above.

Recursion is more than feedback. Feedback implies that there is an outcome, which is then checked in a near-linear manner against a predicted outcome. Recursion is the process of reflection, development of heuristic models and modification on-the-fly during the design process. Over time however the recursive process has to create an increasing degree of certainty about a decision, to the point that something does take on a physicality. Otherwise the design will stay loose and floating and nothing will actually be accomplished however even when the physical entity is created the designer working on sustainability needs to have a degree of humility about its capacity and recognise that it will need continual improvement.

The characteristics of this design model are applied below to a case study of the design of an ecotourism facility at Red Bluff, on the Ningaloo coast in Western Australia.

¹¹³ In the context of design the idea of analogue is similar to that of biomimicry where a design takes a form from the natural environment, or at a literary level how the biblical story of the Fall and the Flood and the Epic of Gilgamesh can be taken as universal descriptions of the tension in human communities between individualism and collectivism, tribal vs. agricultural societies, that are unfolding even today

¹¹⁴ Much of the literature on recursion in relation to sustainability, as opposed to computer programming or literature, can be traced back to work on Stafford-Beer's 1970s work on cybernetics and complexity/chaos theory, for example Espinosa, Harnden, & Walker (2008). It carries the idea of self-similar activities reoccurring thorough out the design process, see also *Complexity theory for a sustainable future* Norberg and Cumming, (2008)

CASE STUDY – THE RED BLUFF ECOTOURISM PROJECT MASTERPLAN NINGALOO COAST WESTERN AUSTRALIA

The Red Bluff design sat in the context of the wider development of the Ningaloo coast as is discussed in the previous chapter. The design brief was to design a world class, ecotourism facility at a remote arid location on the Ningaloo coast of Western Australia. This was a truly wicked problem. In addition to the dysfunctional policy and administrative framework discussed in the previous chapter there were also major issues to do with a finely nuanced expectation of what the particular location should “feel” like, a strong sense of local ownership of the location and almost violent opposition to any change to the location. The site was also important to the local Aboriginal people and had significant European heritage. These issues were further compounded by the fact that the site had major landscape importance and was viewed as one of the iconic locations on the Ningaloo coast where any placement of human structures into the landscape would have to be done with extreme sensitivity so as not to destroy the natural feel of the location. On top of all this was the requirement to implement and extensive range of ESD technology¹¹⁵ in a location where there was no, or very little fresh water, and no grid based electricity supply; and the location was 130km along a dirt road from the nearest town. To resolve this wicked problem we had to develop an innovative approach to design theory and process.

Geographic and Policy Context

The Ningaloo Reef stretches from approximately 90 km north of Carnarvon (1000 km north of Perth, the capital city of Western Australia) to the end of the North West Cape near Exmouth. It contains an internationally recognised, near pristine coral reef bordered by terrestrial lands that range from high biodiversity through to totally modified ecosystems. The Ningaloo Reef is considered to rival or exceed the Great Barrier Reef in quality and diversity. The project area, Red Bluff, was a fifty-hectare special lease for tourism and camping purposes, tied to the broader Quobba Station pastoral lease at the southern end of the Ningaloo Reef.

Historically there had been very little attention to Red Bluff, however in the early 2000s the Western Australian State Government made a decision to promote the Ningaloo Reef as a major tourism destination. As discussed in the previous chapter the Western Australian State Government created a unique, and awarded, planning framework in the *Ningaloo coast regional strategy 2004* (NCRS), and the *Ningaloo Coast Regional Interim Development Order 2007* (RIDO), that identified locations along the Ningaloo Coast in which tourism development could occur. It also set a wide number of policies, guidelines, statements of intent to guide development along the Ningaloo coast including a very strong commitment to sustainable development of the coast. The Ningaloo Sustainable Development Authority (NSDO) administered the NCRS.

¹¹⁵ In the 1990s the term ecologically sustainable development (ESD) got hijacked by architects to describe a generic class of green building, confusingly the term ESD has now taken on its own life in publications such as *the Journal of Green Building* (2006)

The design challenge was to produce a design for a 200-person ecotourism facility at Red Bluff that addressed a number of interlocking, wicked design issues described in the introduction above. The design followed the process outlined above and was useful to test its applicability in the real world.

The role of Narrative and values

Often in a design process the starting point is a fairly cursory mission statement such as “design an ecotourism facility”. We, the design team, chose to explore the nature of the site and wrote the following narrative fairly early in the design process. We did this after talking with many people including the Aboriginal Traditional Owners, the client, the staff of Red Bluff and long-term visitors, and reading a lot of historic literature about the site and camp on the site for a number of days. It was also presented to the government officers to get their input. This narrative helped to contextualise the project design and guided the design decisions.

The narrative was long, extensive, poetic and evocative and a long way from the short “vision statements” that characterised the Government’s consultation process for the Ningaloo Reef area discussed in the previous chapter. The narrative that was developed for the project was as follows¹¹⁶:

There are a host of stories that are unfolding at Red Bluff, it is an intriguing place, with its own culture and mythologies that have built up over the past sixty years. Prior to European annexation in the mid to late 19th century, the area belonged to the Baiyungu Aboriginal people, who still maintain a connection with the area today. In the early 20th century it was part of the pastoral industry with occasional visits by stockmen to a small stock camp. In the 1940s, it was the site where German survivors came ashore from the naval battle between the Australian warship Sydney and the German raider Kormoran. In the 1960s, recreational divers visited it from Carnarvon.

In the 1970s its world-class, left-hand surf break was discovered by surfers, who set up a long-term camp to follow the ideal of country soul surfing and began to build some of the early structures. This set the laid-back ‘tribal’ cultural style of Red Bluff and developed the beginnings of an idiosyncratic folk architecture.

This unique community and culture is still unfolding. There is an ambiguity about what people do when they are at Red Bluff. It is not just a holiday location but also where people go to relax, reflect, explore, adventure, gain spiritual insights. The masterplan sought to recognise this ambiguity and supports its continuation rather than introducing a regimented structure of permitted and non-permitted uses.

The area is warm to hot and arid with less than 250 millimetres of rainfall a year. In some years no rainfall at all, and is prone to cyclones, which can deliver all the annual rainfall over a period of a few days. The geology and biota of Red Bluff are highly diverse. The bluff is a hard limestone plateau that is being eroded by a number of streams that flow only during extreme cyclone events. The rest of the time it is arid and waterless. The eroding

¹¹⁶ The original conception of this narrative was developed by Prof Richard Weller School of Architecture University of Western Australian and the author. Subsequently it was further developed into its present form by the author.

landscape has created a unique location where there are many interfolding surfaces and elevations, as one of the landscape architects commented, “this place would do your head in”. The aridity of the environment means that there is very little, if any, tree cover and the soil surface is easily eroded. It was imperative that no, or as little as possible, of the existing vegetation cover was disturbed and development was generally limited to existing disturbed locations. When considering how to place human settlement into this landscape it became apparent that there were very few opportunities to hide habitation behind vegetation screens and very careful attention had to be paid to the folding of the landscape.

The visual quality of Red Bluff is one of intense detail and the constant play of light over the filigree of vegetation is set in stark relief against an arid topsoil. Shaped by eons of wind, water and sun, Red Bluff is a geomorphologic powerhouse that renders humanity small. It is also linked with a fragile yet timeless ecology of some of the world’s most biodiverse marine environments. It provides a context for an unfolding narrative, a surfing “secret” and a place that magnetizes generations of West Australians and, now, people from all over the world. At a coarse level, nothing much happens at Red Bluff – a whale breaches, a surfer gets tubed, people occasionally cross paths; but at a fine level there is a constant and infinite unfolding of activity and change.

Culturally, Red Bluff sits between a village and a campsite. It is about people meeting on walkways, in the water and on the beach and having the opportunity to share their common life. A social and informational mesh underpins the use of the site. The nodes in this mesh correspond to the places where people meet and live. However at a physical level movement follows a dendritic pattern with campsites spurring off from access tracks and walk trails.

The community wants Red Bluff to be kept looking “natural” however difficult it is to describe what is natural. This requires a significant discourse about what constitutes naturalness and if it is possible for human intervention to add to a natural aesthetic. At an institutional level the Government set a broad visual objective that the development should look “apparent/blending not prominent”. This rather obscure objective has also to be interpreted in the context of what this means in how people look at the landscape.

Looking over Red Bluff today some might think the landscape with its array of small structures is “messy” or in some way out of keeping with the landscape, but it is important to appreciate that at Red Bluff all of the flotsam and jetsam tells a story. Such authentically self-made places are increasingly rare in an overly designed and developed world.

To date Red Bluff had been essentially self-organized – and successfully so. Many of the visitors want to see this character continue into the future. However because of the promotion of the Ningaloo coast as a tourist destination, Red Bluff is at a turning point where the self organisation will break down and what is currently a quirky and engaging place will become over-run and destroyed.

While this was a long and extensive narrative it was evocative, recognised the multiple, convergent narratives and invited the readers to place themselves in relation to the Red Bluff narrative. It was not impartial or scientific, but at the same time it was highly exacting and specific.

Values and Concepts

The values that emerged from the discussions about the narrative produced a set of concepts and values to be enshrined in the design process. These were that the design should:

- Tread lightly on the earth, be carbon neutral, raise people's spirits, reconnect with the earth, create a community
- Meet the needs of the client and visitors to Red Bluff for a unique experience
- Meet the aspirations of the community for a continuing cultural narrative while at the same time allowing more sophisticated uses of the site to develop
- Capture the existing architectural language and extrapolate this into the future development
- Respond to big global issues such as greenhouse gas emissions, the cultural importance of involving Aboriginal people in activities on their own land, the changes in the international traveller market
- Respond to an extremely diverse landscape that was very highly valued for its naturalness but also afforded very few places for hiding or disguising structures
- Produce a project that maximised the opportunity to be economically viable in a new and untried tourism market
- Convert the intent of the NCRS and a significant number of other policies, guidelines, regulations, by-laws, planning schemes into a project framework that could guide the design and gain the approval of State and Local Government planning processes, without getting bogged down in compliance issues that typically guide planning processes
- Use the planning process to produce a sustainable development which was bedded in triple bottom line accountabilities
- Develop innovative planning tools to address the design issues as they arose.

These statements, when only used by themselves, could have produced a wider range of design outcomes, however when informed by the narrative it became easier to turn them into well-focused Guidelines and Principles as is discussed in the next section. Essentially we used the narrative recursively with both the Values and Concepts and then the Guidelines and Principles to develop an overall package to guide the design.

Guidelines and Principles

There were over sixty specific statements in the documentation of the plan that articulated the specific principles that had been derived from the Values and Concepts. These ranged from some that were fairly descriptive and conceptual to those that were prescriptive; examples are given below.

Example 1 a descriptive principle:

DESIGN PRINCIPLE – Using human movement and social networks

The culture of the site is underlain by two principles. Human movement along roads and tracks follows a dendritic pattern. Social interaction is based on a mesh that keeps people mixing and breaking down economic and cultural divisions. This will be used to guide the location of structures and developments.

Example 2 a prescriptive principle:

DESIGN PRINCIPLE – Designing for storm surge

The application of SPP 2.6 to Red Bluff is discussed in Appendix 3. From this discussion the design setbacks have been determined as:

- Any semi-permanent or permanent structures will be built in places with an elevation of >10m AHD for rocky shores and the Southern Sediment Sheet, or setback more than 100m from the high water mark from sandy beaches.
- Any structures built below this will be non-permanent e.g. shade shelters, day use facilities other shelters, and support structures and will be designed to be removable in the event of having sufficient warning of a cyclone event, or expendable if there is insufficient time for their removal.

Example 3 a principle with both descriptive and prescriptive components:

DESIGN PRINCIPLE – Adapting the design to the climate

The coastal location and landform has created its own specific microclimate at Red Bluff that has impacted on the design of the development requiring attention to the following:

- Parts of the site have unstable swirling wind patterns requiring particular attention to dust control through maintaining vegetation cover and selecting appropriate materials (e.g. grit) for covering camping sites
- The headland acts as a “dew-shadow” preventing moisture laden air reaching some parts of the site particularly on the northern facing slopes. This reduces the vegetation cover on some slopes above the campsite requiring particular attention to control grazers to preserve vegetation cover and prevent soil erosion
- The valleys can act as suntraps, particularly in late afternoons. This is an asset in winter but can result in higher temperatures in summer. This will have to be addressed in the orientation and design of structures
- The whole sites, and particularly the top of the escarpment, are subject to strong winds requiring that structures are rigid and made from hard materials. Tents and fabric structures are inappropriate for the site except as expendable, short-term shade structures.

Targets and Metrics

A list of over 200 Sustainability Design Indicators was developed early in the process to guide the design. These covered economic activity (e.g. return on investment, employment created), ecological sustainability (e.g. biodiversity protection, renewable energy supply, impacts of transport, greenhouse gas emissions, building materials), and broad descriptions of what is desirable for user experience (e.g. maximising length of stay to build community and reduce transport greenhouse gas emissions) and created a very rigorous and structured framework for the design.

The indicators were gathered from a number of sources including: work done by officers of the Department of Planning and Infrastructure who developed a spread sheet summary of all the statements in the NCRS that could be construed as giving planning direction; requirements from other policy documents and legislation; the client's

business objectives; the measures needed to protect the landscape ecology of the site; ESD building design; and matters of cultural importance to the Aboriginal people and visitors.

The indicators were useful because they set broad targets to be achieved. Each indicator was given a ranking and their relative importance guided the amount of effort expended by the design team to meet the target. An example of a metric and target was:

ENERGY SUPPLY

The site should be powered by 100% renewable energy

The strength of using such indicators was that it avoided the design team disappearing into a vague fuzzy narrative space that was not linked to the reality of creating a real world project. The benefit of having a strong understanding of narrative was that it avoided getting overly obsessed with, for example, financial bottom lines.

Analogues

Analogues or metaphors were used extensively throughout the project including a major pilot project in which many of the basic physical, cultural and business structures were tested in a real world situation. As the design progressed other metaphors or analogues were developed to create strongly evocative, guiding ideas or stylistic design concepts to be followed in the design. This section is more detailed than the above because it illustrates that metaphors can link narrative and deductive aspects of design. Three examples of Analogues are discussed below.

Analogue 1: Use a Pilot Project to create a small, real version of a later development In 2003, Quobba Station developed a \$750 000 Pilot Project, through a combination of private and government funding, to support and test designs for future tourism developments along the Ningaloo coast. The project consisted of:

- Four up-market tents on the escarpment (total 8 beds, each tent having its own shower, toilet and kitchen)
- Shared/family bungalow tents (total 18 beds, each tent with its own shower and toilet, with a shared kitchen and recreation area)
- Upgraded vehicle tracks
- A 15kVA photovoltaic power generation unit
- Development of a marketing package to attract visitors

Many lessons were learned from this exercise that were taken into the final design and are summarised below:

- The surveys and discussions that we undertook with the visitors indicated that the “feel” and culture of the place is the most important issue for visitors and should be retained in any future developments.

Having the pilot project in place gave something for people to respond to. This was far a more constructive contribution to the design process than simply asking people what they liked, wanted or did not want. The capacity to stand with a group of visitors and point at the Pilot and hear people say “I like this bit but not that bit” was invaluable. In addition this consensus approach of design leadership was far more productive than attempting to design and build a whole development then have it critiqued by the public and either have to defend the design or expect that people will adjust to the outcome if they don't like it.

- Generally, visitors were accepting of the presence and appearance of the Pilot Project including both the tents on the escarpment and those lower in the site, however some people expressed reservations about their appearance. These reservations were generally associated with the change in local culture that they represented by the arrival of a new development rather than the specific appearance of the Pilot Project on the site. Once again within the context of convergent narratives it was important to be able to tease out the conflict between peoples' narratives about “appearance” as opposed to their narrative about “use” while at the same time recognising that they were intimately related.
- The placement of the Pilot Project in the context of the site was very important and this guided the site selections of the final design. During the discussions with visitors we found that people had different relationships to parts of the site, some were universally seen as “sacred” and not to be touched, while others were seen as being more acceptable for a broader range of uses. Once again understanding how the narratives of the visitors linked to a geographic location made us able to guide the design.
- There were a whole suite issues relating to extreme environmental conditions (wind, dust, sun, cyclones and storms) that interplayed with the way people wanted to be in the site and led to decisions to select a diversity of permanent accommodation and temporary or expendable structures. The acceptance that humans did not have to dominate the landscape at Red Bluff, and that nature could take away the structures was a profound design shift.

Analogue 2: Place Creation – borrow ideas from the City

The Masterplan created a development that had a very high priority on *place creation* that reflected both the landscape and existing uses. But looking elsewhere to understand how people liked to live in the landscape in a non-recreational context enabled the design to work for people. In this it appears that we were tapping into a universal human desire for settlement in a protected location with activity centres in the heart of that location. This is illustrated in how we used an analogue with the layout of City of Fremantle in Western Australia to respond to an issue of congestion in the “coolest and hip-east” part of the site, the southern end of the Red Bluff bay.

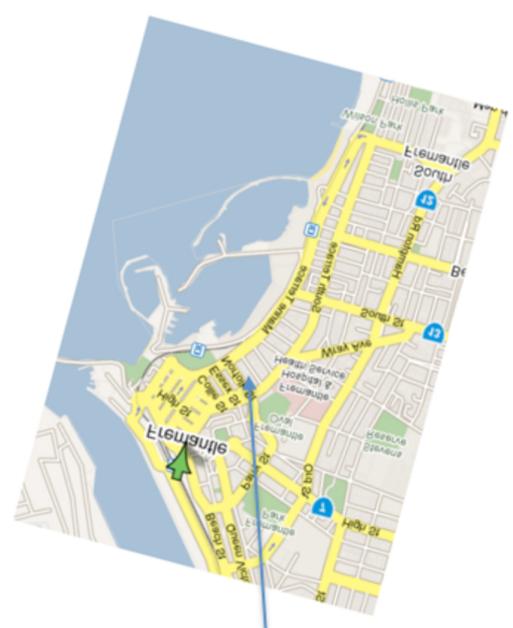


Figure 4 – Congested party places in the hook of a logarithmic bay – Fremantle, Western Australia, image reversed and inverted to reflect the same logarithmic shape



Figure 5 – Congested party places in the hook of a logarithmic bay – Red Bluff

Everybody wanted to be in the hook of the bay because it was protected, gave easy access to the surf, was geographically interesting and the interesting people stayed there. Consequently it was congested, over-used and suffering significant environmental degradation. By comparing the land use patterns within the logarithmic shape of the bay at Red Bluff with the same general land form, but at a different scale, of the City of Fremantle in Western Australia an analogy was created that solved the problem. In the figure above a reverse image of Fremantle can be compared with an image of Red Bluff. In both cases the heart of the human activity was in the “hook” of the logarithmic bay. Surprisingly the design response to relieve the congestion was similar for both locations, limit car use, create a new neighbourhood centre away from the congested point by creating a new valley village in the centre of the site and implement a walkable neighbourhood consisting of a grid hierarchy of “streets”, i.e. walk trails and vehicle tracks, skewed to fit with the geography of the landscape.

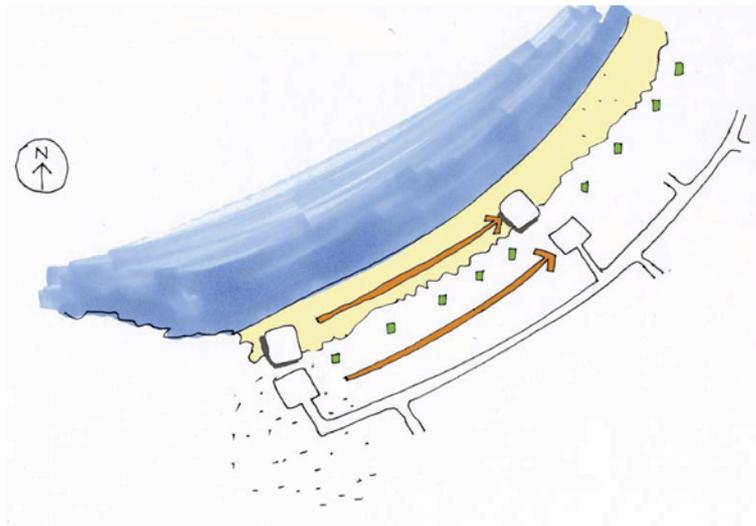


Figure 6 – Red Bluff solution to decongest the site was to move some accommodation along the bay

A further example of using analogies from the city to solve a design problem was to help understand the relationship between public and private space. This occurred in two ways. Firstly, although the Red Bluff lease was privately owned, the project was designed to be open and welcoming to all visitors and to blur the lines between public and private ownership. Tourism developments tend to assume that people will visit for a short time, during which maximum opportunity should be taken to remove their money, before they move on to the next location. The idea is also that the private space of visitors is minimised by barricading them behind safety rails and appropriately placed interpretative works to protect the environment and visual amenity of a location. This creates a high-rotation, high-carbon-emission tourism industry based around people moving around rapidly looking for the next visual 'hit', i.e., what looks 'nice' or interesting. However, like any 'hit', it is short lived, and soon the shallowness of the experience kicks in and people rush off to 'DO' the next place, 'DO'-ing being an obvious linguistic marker of a commoditised/consumer society, and essentially why shouldn't they 'DO' the next place, if there is nothing else *to* do, as any local culture has disappeared under the commodification of the landscape?

This project recognised that what made Red Bluff unique was its cultural experience and that people should be allowed to interact with each other in their landscape context and architecture. In this way they were encouraged to enter the collective narrative and build their own narratives. Visitors are encouraged to stop and settle into the ambience of the place, to work on projects on the site, to modify buildings, to place decorative flourishes in the accommodation, to have fires in fireplaces, to meet in groups and party on the beach.

Secondly, we borrowed the idea of zonation from urban design. By designing for these narrative-based interactions, the design sought to create a living community with its own integrity, that people want to immerse themselves in, become part of and contribute to. The community essence also carried within its narrative its own cultural restrictions and prohibitions about where it is acceptable to go and what it is acceptable to do. This created a far richer but equally well-managed environment without the high levels of barricades and restrictive

signage. In addition, the interpretative work was carried out as part of the site’s cultural exchange: people told each other what was going on and what the place was about, adding to the store of information a combination of fact, history and narrative.

This zonation broke the site down into a number of different areas that were about the total cultural and landscape experience they provided rather than just allocating a type of accommodation to a location. The major components of this zonation were:

- Southern valley – the cultural heartland of Red Bluff with the most dramatic landscape, best access to the beach and surfing, this area is kept for low-key camping and day visitors.
- Dune system – used for architecturally designed ‘castaway’ camping shelters placed in the inter-dunal swales and expendable in the event of storm surge.
- Central valley – construction of a small village starting in the upper end of the valley and running down to a shop located in the dunes to create a new social hub and reduce the people pressure on the southern valley.
- Edge of the escarpment – upmarket accommodation with highly innovative architecture that gives a unique experience.
- Camping locations – spread through out the site.

In contemplating the visitor experience the idea was to create a site that was similar to an old walking city where people could move around exploring the boundaries between public and private space and come across unexpected “gems”. While Red Bluff has a world-class surfing wave, to promote it as a surfing destination would have over-crowded the resource creating a bad reputation as a surfing place that had been spoiled, and diminished the opportunity to promote the other cultural assets of the place, particularly the sense of community.

Thirdly, the idea of equity of access and “affordable housing” is important in city policy and informed the design.

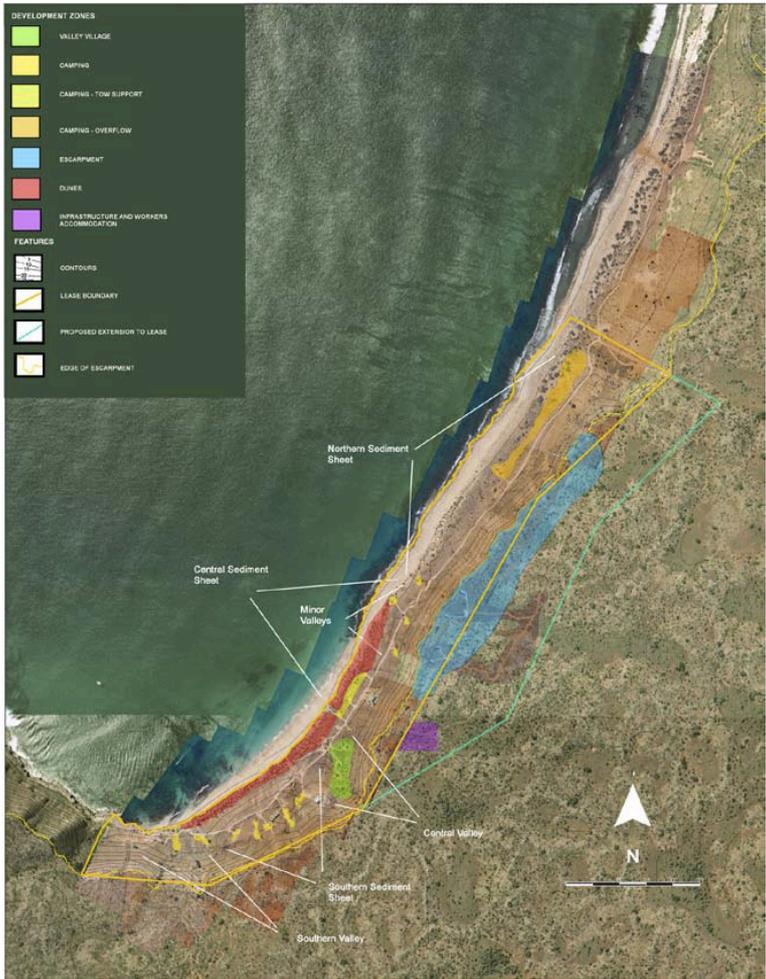


Figure 7 Zonation of the site

Conventional tourism thinking suggests that the highest-paying accommodation should be in the best location; in the case of Red Bluff, this would mean that the up-market accommodation would go in the southern valley. However, the current use of that valley by campers represented the core cultural driver that defined the identity of Red Bluff. As a design response and to be faithful to the narrative of what made Red Bluff special, a combination of iconic architecture, careful site selection and views from the edge of the escarpment were used as the desirable asset for the up-market accommodation to offset the lack of proximity to the water, see the figure below. This preserved the cultural identity of the site and accommodated a new significant market segment, while still meeting the government’s visual landscape objective of the development blending into the landscape and not being apparent or highly visible. Once this design concept had become embedded into our team’s thinking we began to evolve metaphors to talk about what would traditionally be known as “market segmentation. For us however the interplay between visitor culture and desired experience, location on the site, architectural language, permanence of structures, cost of accommodation began to become bundled into some interesting design metaphors for market segments. For example people who wanted to live in castaway-style shelters nestled in the dunes became known as ‘hobbits’, those who wanted high levels of luxury and elevated locations were ‘gods’. Viewing the market segments as types of narrative experiences rather than economic entities was a powerful conceptual shift in the design. In essence, the economic analysis became a default control: “if it does not produce a return, we have to find another way to do it”; rather than a project target of “how much money can be made out of this market segment”.

Essentially these metaphoric descriptors, snow birds, gods, hobbits, and where they were located in the landscape, represented the resolution at a finely grained level of a number of convergent narratives and gave us strong clues to how to resolve each of these micro-wicked design problems which were aggregating, recursively, into the overall wicked design problem of trying to produce a viable ecotourism development.

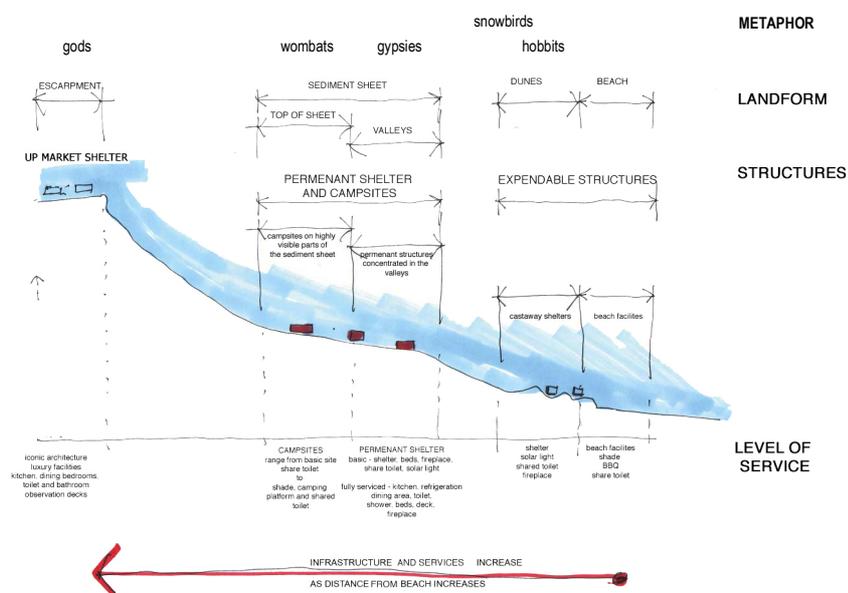


Figure 8 Landscape, cultural experience and cost across the site – including metaphoric design names

Fourthly, our design focused on the integrity of a tough architectural language informed by and matching the site by referring to both the landscape and the folk architecture in the existing structures (Carter & Cromley, 2008; Pearson, 2001). This architectural language was based on the assumption that the site has its own language, which should not be compromised by faux-styles (tropical island, pastoral station, Australian modern, post-modern chic). They had to reflect the narrative that was unfolding on the site and have the same tough look as the landscape, with a marine flotsam and jetsam approach used in the existing buildings. At a practical level, the structures are designed either to be totally expendable or to withstand cyclones, the assumption was – things get blown away and that is OK.

Analogue 3 – Visual Modelling

Fundamental to the acceptability of the project was the questions – “what will it look like?”; “will it look ‘natural’?” “how do we make it ‘blending not prominent?’ ”. Despite paying considerable attention to the appearance of the development it was only fairly late in the project, once the design was well advanced, that the NSDO decided that a highly systematised approach to Visual Landscape Assessment (VLA) (Landscape Institute and the Institute of Environmental Assessment 2002; Hammond and Clegg 2006; Department of Planning and Infrastructure 2006; Environment and Sustainability Directorate, 2007) would be needed to satisfy its officers that the project would fit with their interpretation of what the development should look like. The government prescription for the site was that the development should look “natural” and “apparent/blending not prominent”.

The value of VLA was that it encouraged a systematised approach to placement of structures in the landscape; the negatives were that it was unable to comment on the impact of building arrangements at a very fine level or the contribution of architecture to the local culture. While this use of VLA may have prevented some gross architectural excesses and visual abominations, it also risked dropping the level of architecture and building placement down to the lowest common denominator and excluded opportunities for innovative excellence and the opportunity for architecture to interpret or inform the landscape.

In comparing the output from the research into the site narrative with the government’s attitudes to the visual landscape, it can be said that the government was concerned about what the development *looked like*, the community were concerned about what the development *felt like*. The design team’s role was to reconcile these two and tease out the degree to which the narrative around *feel* was made up of narratives about appearance as well as other narratives.

After trialing a number of different approaches to develop images of what the final project would look like¹¹⁷ we used a 1:1 scale, site determination technique¹¹⁸ to give a high level of accuracy and confidence that the final

¹¹⁷ Although it was trialed, computer simulation was not used for the visual modelling because in the highly complex context of the Red Bluff site, digital terrain models and aerial photography did not have sufficient resolution to accurately present the images of structures in exact locations, and it is easier for computer models to be “tweaked” to give more favourable images that would have undermined the integrity of the design process.

¹¹⁸ Basically this meant walking around with survey staffs and flags while taking pictures from different locations around the site

views generated for the site would reflect the reality of the final design. Using this information images of the final structures were scaled into photographs of these locations to give a realistic understanding of what the final design would look like. These images were then tested with the public and visitors to get their feed-back about their idea of how much these changes would alter the *feel* of the site.

Recursion

As can be seen from the above discussion we used a lot of processes to continually review the design as it emerged and to test it against the feelings of the client and the visitors. We also found that many of the design solutions developed could be applied, recursively, across the site. An earlier example already discussed was the use of metaphors to describe the visitor experience. The client also had an exceptional commitment to sustainable development, over thirty years' experience with the site and clear ideas about how the project could proceed. While in a formal sense there was no "client brief" that followed a traditional design project assignment, working with the client was a highly didactic and recursive process where we had to revisit and revise what the project was about and how the client's ideas had evolved as they saw the design unfold.

Early in the process we also held a number of charette-style workshops and consultations (Kotval & Mullin, 2013; Lennertz, 2003; Steiner, 2008) on site and included the visitors, the client and government officers in the design process. These processes are by their very nature, highly recursive and allowed challenging of values and concepts, and suggestions of metrics, targets and analogues emerged. They also helped in engaging and describing the narrative of what the site was about. The public consultation was particularly successful because the public were able to react, in most cases against, the Pilot Project and give specific feedback about what they did and did not like. In this context using a Pilot Project was a very tangible and powerful recursive element in the design process.

The design team, client, caretakers and government officers were involved in a *camp-out* on the site where, over the space of two and a half days, everybody who was involved either visited or camped on the site and lived and designed together. This high level of personal engagement fed, recursively, into many different levels of the design process and assisted with the transition in the narrative discussed above, as is illustrated in the following anecdote.

The visitors to the site have a strong sense of personal identity with Red Bluff and have stories and histories that are passed around between themselves. There had been the feeling in this community narrative of "how does the Pilot Project fit into what Red Bluff is about". While the design camp-out was occurring there was a considerable amount of partying at night by the design team, caretakers and visitors occurring in one of the Pilot Project tents set on top of the escarpment that overlooks Red Bluff. About 10pm at night one of the caretakers walked outside and fell off the cliff. Fortunately she was not hurt as she landed on a scree slope about 2m below the edge of the cliff. However it took about one hour to get her back to the top of the cliff. Ever since that time this accident has become known in the stories passing around Red Bluff as "Bec the cliff diver". Even though this was a potentially, disastrous, unwanted outcome of the design process the consequence was that Bec falling off

the cliff worked recursively back into the Red Bluff narrative and integrated the Pilot Project into the wider Red Bluff story.

SUMMARY

The Red Bluff design was a major exercise of translating a highly charged, wicked problem into a physicality. The design process developed with a strong emphasis on understanding narratives and linking this through values and principles to metrics and targets was very powerful. Similarly the recognition that we required a highly recursive process that included recursion around both narratives and deductive assessments (metric and targets) was a very powerful design tool even though it was far more difficult to implement than if we had taken the classic modernist design approach of “design and defend”.

On reflection, it was fortuitous that the government’s priorities for rigorous visual assessment came late in the design process because it allowed the narratives and the sustainability design principles to become well enshrined in the design, and the design team were able to use these recursively in discussions with the government to explain why such things as the underlying zonation of the site should be preserved, what the architectural language of the site was, why use and physical movement patterns should not be changed, and why a market segmentation that relied on cultural norms had been used. If there had been an early emphasis on the superficial visual and stylistic issues without the attention to the narrative, it is likely that the broader sustainability agenda would have been neglected and the design compromised into something that looked nice, and been economically successful, but would have lost the soul of what Red Bluff was about.

There is the question of why and when each method was used in the design process and some general observations can be made. Firstly, there was an early assumption that economic, cultural and ecological components of the project should all have an equal footing in preliminary investigations, which was supported by the client’s commitment to the culture of the site and triple-bottom-line accountability. Incorporating these into a set of sustainability design indicators gave a framework for the project. This could probably be described metaphorically as a ‘scalar’ description of the project in that it provided quantitative descriptions of size and shape but no sense of direction or form, by analogy “vector” qualities.

Secondly, it was decided that there should be no major dislocation in the narrative of what Red Bluff was about and that the design should promote a smooth transition and continuation of that narrative through spatial arrangements, architectural design and promoting human interaction while allowing more and different market segments to evolve and a better economic return to be accomplished from the site. This stage of the design was strongly supported by narrative and recursive design processes. In this context this was the section of the design that least matched the traditional modernist planning processes.

Finally, as the project proceeded into its final design, more reductionist methods, e.g. VLA, and detailed economic models were used to tie up the details of the design. For the final design, over forty different *design principles* were distilled from all the investigations to inform the design process and explain the project in the planning documentation. The principles were developed through a recursive process, with the client and the design team challenging each principle and refining it until it was adopted. The high levels of consultation associated with the project also involved, at least to the level of what was practical, both the community and the government officers in this recursive process.

Based on the experience at Red Bluff it is believed that the elements of the model described above can produce a *physicality* and are sufficiently rigorous to be applied in other contexts.

Crucial to the design process was also that we created a highly fluid working space which used many different techniques and processes to engage people both from government and the public in the design. The characteristics of such a design space are explored in the next section Chapter 10 Forum.

Chapter 10 – Forum

INTRODUCTION

Having established in the earlier chapters the role of the sustainability designer in understanding wicked problems, exploring their role in intervention, leadership and creating realities this chapter examines how a designer can create a “forum” or “space” in which to work on wicked problems using all these approaches. As will be discussed later this “space” can be physical, informational, cultural or a combination of all of these.

The idea of a forum draws on the Latin and Roman origins of the word, where the *forum* was a market place in the centre of the town. As it was the centre of commerce visited by most of the population, the forum became the place where people met and discussed town issues and ultimately became the place where issues of governance and town management were resolved. As it is used here the idea of a forum draws together a number of concepts from different sources. In no particular order of preference, the forum can be constituted from any or all of the following: the transfer of information particularly using the internet and social media¹¹⁹ (Harasim, 1993; Crawford, 2009; Juris, 2012; Kaplan, 2010; ProBono News, 2012); creation of formal economic and/or social spaces such as business or organisations (Qualman, 2013; Solis, 2009); informal social and physical spaces (Audretsch, Aldridge, & Sanders, 2011; Bourdieu, 1985; D. Cohen, 2001; Lesser, 2000; Tsai & Ghoshal, 1998). Ultimately the question for the designer working on sustainability is “what sort of forum needs to be created to facilitate developing a design solution for the particular problem being considered, and what features of this forum will create a sustainable system?” And there is no one correct answer, other than emphasising that each of the potential components of the forum physical, informational, social, economic and structural, all need to be considered as candidates for inclusion.

Rather than trying to compare the effectiveness of different kinds of forum (informational, social, physical) , this case study uses the theoretical framework of management of Common Pool Resources (CPR) to evaluate and guide the design of forums during a sustainable design processes.

Firstly, an explanation of CPRs – these are resources that are accessed by a range of citizens and organisations but are not owned by any one specific organisation or individual, that is, they are not the subject of private property rights. This approach has been taken because when a sustainability designer addresses wicked problems they are more often than not dealing with an issue that tracks back to the management of a CPR. As is discussed later Garrick Hardin’s discussion of the Tragedy of the Commons has been used to highlight the problems of managing CPRs. Traditional economic solutions suggested are either privatise CPRs or alternatively, strengthen and impose, central government command and control systems. Often these are not options¹²⁰ for the sustainability designer; consequently this case study looks at characteristics of other, citizen-based, options for managing CPRs as have been identified by Elinor Ostrom.

¹¹⁹ Harasim discussed this concept over 20 years ago so it is not new

¹²⁰ Either because they are unworkable or the collateral damage is unthinkable

This case study uses the *2029 and Beyond Project* that the City of Greater Geraldton, ran for a three-year period between 2010 and 2013. This project embedded the City's future planning strategies in an extensive, deliberative democratic process. In this case study, the *2029 and Beyond Project* is viewed as the *forum* where the future development and management of the common resource of the City of Greater Geraldton the surrounding region was thought through by the City's citizens, Councillors and administrators; and seeks to evaluate how effective this forum was in improving the management of the Geraldton City region and particularly how effective it was at engaging the community in self-determination of the City's direction. (Gieryn, 2000; Montgomery, 1998; Smith, 2008; Williams, 2010).

Management of Common Pool Resources

The question of how to manage the "commons" has been on the agenda for those thinking about sustainability for many years. In 1968 Garrick Hardin released a paper the "Tragedy of the Commons" which described, for its time, the fundamental issues associated with the management of common pool resources. The essential idea was that common pool resources are resources accessed by many agents (people or organisations) but over which no one has specific ownership. In this context Hardin is using the word "tragedy" as a description, similar to that of a Greek drama, where a sequence of events grinds with a remorseless inevitability towards an end about which the actors in the drama have no knowledge, even as they are involved in the unfolding of the tragedy.

Hardin's description of the Tragedy uses the analogy of a village green where each herdsman grazes a cow. If each herdsman adds a second cow their individual wealth increases by 100%, however the end result of all the herdsmen adding an extra cow is that the total grazing pressure is doubled and the commons collapses. He says....

Therein is the tragedy. Each man is locked into a system that compels him to increase his herd without limit – in a world that is limited. Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. Freedom in a commons brings ruin to all (Hardin, 1968 p.1244).

Hardin makes the assumption that the management of CPR evolves into people behaving according to the mechanisms of free market capitalism (individual, short-term, intelligent and rational), along the lines of Adam Smith's *Wealth of Nations*. While this analysis is attention drawing and focusing, it has a number of limits and limitations (Stoett, 2012). Firstly, it makes assumptions about the human individual that the ultimate reality is about the individual acting on their own, for their own self-interest. This is particularly ironic because Hardin's intention in writing the Tragedy was to encourage the world to reduce population, protect the environment and to elicit commitment to change. Secondly, it does not consider the role that information and communication can play in managing resources, essentially Hardin's actors don't appear to talk to each other. Thirdly, it does not recognise humans in their context, whether this context is geographic, cultural, social and/or temporal, which may predispose people to form communities and work together, which reflects Ricoeur's differentiation about the

nature of identity as opposed to the modernist prescription. Finally, to quote a maxim – no man is an island and in the context of world history the isolated rational individual is a rare identity.

Pervasiveness of the Tragedy

The question of why the Tragedy has been so pervasive for the last forty years has been explored by a number of writers (Bromley & Cernea, 1989) and the consensus would appear to be that it is conceptually easy to understand, it fits into a particularly modernist interpretation of the world, and it reflects the framework of the mainly Western bureaucrats and scientists that are making CPR policy. It is these types of policies, as has been noted earlier, which have created wicked problems. A darker side of the *Tragedy*, and probably not intended by Hardin, was that by privatising a common resource, one economically driven response to the *Tragedy*, resources that were previously commonly owned would become available to be built into personal or corporate enterprises.

Generalising Alternatives

The challenge for those advocating alternatives to privatisation or government control is that a local example of effective CPR management needs to be generalised. A lot of contemporary CPR research is focused on specific geographic areas or activities, such as sharing the resources of a particular fishery or management of a forest, and not on bigger and more complex social/economic/environmental systems. This may be because much of the research into CPR has to limit its focus to relatively simple CPR systems to enable the investigations to be considered “research” and therefore “valid” for considering as an alternative policy model for CPR management.

Despite this it is considered that a CPR based analysis is a valid framework for this case study for the following reasons. In its original conception, the issues addressed in the Tragedy grew out of a discussion of the impact of, and responses to, global population growth – which is an extremely broad ambit. In addition, other writers have suggested that the Tragedy of the Commons can also be applied to issues relating to government processes. Walter Williams applies the idea of the Tragedy to US politics and federal budget:

We can think of the (US) federal budget as a commons to which each of our 535 congressmen and the president have access. Like the cattlemen, each congressman and the president want to get as much out of the federal budget as possible for their constituents. Political success depends upon “bringing home the bacon”. Spending is popular, but taxes to finance the spending are not. The tendency is for spending to rise and its financing to be concealed through borrowing and inflation.

Does it pay for an individual congressman to say, “This spending is unconstitutional and ruining our nation, and I’ll have no part of it; I will refuse a \$500 million federal grant to my congressional district”? The answer is no because he would gain little or nothing, plus the federal budget wouldn’t be reduced by \$500 million. Other congressmen would benefit by having \$500 million more for their districts.

What about the constituents of a principled congressman? If their congressman refuses unconstitutional spending, it doesn’t mean that they pay lower federal income taxes. All that it means is constituents of some

other congressmen get the money while the nation spirals toward financial ruin, and they wouldn't be spared from that ruin because their congressman refused to participate in unconstitutional spending (Williams, 2012).

Based on this, it is considered reasonable that a CPR-based analysis is applied to a comprehensive project such as the 2029 Project, as has been proposed above, even if the analysis has to be more qualitative than quantitative.

Alternative models

Since the original paper by Hardin much work has been done on investigating the conditions under which communities work cooperatively on CPR (Berkes, 2005; Burri, 2012; Santos & Pacheco, 2011; Sinden, 2007) however, in this chapter, the work by Elinor Ostrom is used as the framework for the case study because she was one of the original researchers in this areas, her work is internationally recognised and she received a Nobel Prize for it¹²¹.

One of the modernist 'solutions' created by traditional economists to address the problems of CPR was to privatise, or at least assign property rights, to the common resource. Ostrom realised, after having studied a number of common pool resources around the world and particularly looking back into history, that there were many successful, long term, community based, self-managed common resource pool systems. None of these were suffering the Tragedy of the Commons and all of them had found ways to ensure the long-term stability of both the CPR and the community. Ostrom's work showed that CPRs can be managed successfully without the command and control approaches of a centralised government or the loss of the commons as occurs when privatisation or quasi-privatisation occurs.

Her research followed a number of lines of investigation. Firstly, she used game theory¹²² to examine conditions under which people would cooperate for a mutually positive outcome. This enabled her to test human responses to CPR issues under controlled research situations. Secondly, she examined a number of CPR in different parts of the world where it had been shown that management of forests, sharing of irrigation water or use of fishing grounds had been occurring successfully and without an apparent loss of productivity for many generations. Her research showed that self-management by local communities, provided it works within certain principles, will produce sustainable management of CPRs and will avoid the "free rider" problem identified by Hardin. The result of her research was that Ostrom identified a third approach to resolving the problem of the commons: the design of durable cooperative institutions that are organised and governed by the resource users (Common property resource digest, 1986; Jha, 1995; Quiggin, 1993).

From this analysis Ostrom and others have identified eight principles by which successful management of CPRs can be determined. These are listed below in the case study from Buck's review of Ostrom's work (Buck, 1992,

¹²¹ During the final edit of this thesis the BBC's Tim Harford's "Pop Up Ideas" presented a program about the Tragedy of the Commons. Harford contrasts how Garick Hardin suicided to end his life, while Elinor Ostrom worked with her students to the end of her life and died in bed marking one of her student's PhD thesis. After she died her husband carried on her work. Harford's strong suggestion was that the way both of these people died indicated how their inner values and beliefs affected their orientation to life and death. This, for a sustainability designer, reinforces the need as discussed in Chater 4 to have a high degree of self awareness of their own narrative (Harford, 2013).

¹²² Game theory is the study of how and why groups of people or individuals may choose to cooperate or not to achieve certain outcomes, it is also described in psychological literature as the *theory of social situations*. The classic study for game theorists is the prisoners dilemma where two criminals who were involved in the same crime are held in separate cells and are given the choice of implicating the other person and receiving freedom while the other receives a large penalty, or keep quiet and both receive a lesser penalty.

1998; Dietz, Ostrom, & Stern, 2003; Ostrom, 1999, 2003). Out of this, the assumption tested in this chapter was ... *to create a sustainable system that demonstrates the self organisation and the longevity that characterises Ostrom's "third approach"*¹²³, *the designer must create a working forum produces, or is guided by, all the Principles identified by Ostrom.*

CASE STUDY – THE 2029 AND BEYOND PROJECT

The *2029 and Beyond Project* was selected because it had a number of fundamental components that have been discussed earlier in this thesis including: it was about leadership, it represented a major intervention, it was about creating physicalities, it was about identity and narrative. In addition, as a process it used many different types of "spaces"; relied on both new and traditional media to communicate information; it had different types of social arrangements using both formal meetings and informal discussions; and activities took place under different administrative frameworks for example: City meetings, discussions in cafes, working groups, design charettes.

*Background*¹²⁴

In the mid 2000s the staff and Councillors of the City of Greater Geraldton realised that the City was faced with a significant transition in the region. For many years the City was a small regional urban centre controlled by a local government. In 2006 the City was merged with the surrounding Shire of Greenough and then in 2011 merged with the Shire of Mullewa. This amalgamation was part of the Government of Western Australia's initiative to reform local government (Government of Western Australia, 2013) which was part of a wider policy agenda across Australia to devolve powers and management responsibilities down to the local government (South Australian Government, 2008). This created a local government that covered over twelve thousand square kilometres and brought in a wide variety of communities, environments and land uses. At the same time the mining industry was beginning to boom and represented a major change in the economic structure of the region. Similarly a large-scale radio astronomy project the Square Kilometre Array (SKA Australia, 2013), brought a new level of technology and sophistication to the region's industrial mix. Other development opportunities included turning Geraldton into a major infrastructure and logistics gateway to Western Australia and tapping into the huge amounts of renewable energy in the region. These changes would also be accompanied by a very significant increase in population that would change the demographics of the region dramatically. Against this background the City of Greater Geraldton wanted to position itself as a major regional capital. The 2029 literature talks about 2029 Project applying to a *city region*. It says, "*The term "City Region" is commonly used to represent this, and research shows that the term "City Region" better reflects communities of interest and economies, and not just local Government boundaries*" (Geraldton, 2012) .

¹²³ A system for managing a CPR that sits between centralised government and privatisation

¹²⁴ The background material in this section explaining the 2029 Project was taken from the City of Greater Geraldton's website and other City publications and summarised to highlight the major points relevant to this case study

To take advantage of these changes the City embarked on a “community-based planning process to address the challenges and opportunities facing our City and region. The project responds to requests in the community for citizens to be more actively involved in planning for their future”. (Geraldton, 2012). The objective was also to create a more sustainable, healthy, equitable and creative city for all its citizens. This planning process was based on a sustainability framework that placed environment, society, culture and economics within a governance framework designed to help the community create their future and reach their aspirations. This focus on governance systems provides strong linkages back to the management of common pool resources and the theory behind the creation of sustainable systems as was discussed earlier in this chapter.

The 2029 Project used a number of tools / techniques / methodologies to get input into future planning. The ultimate outcome was the creation of the Community Action Plan for the Greater Geraldton Region to ensure that the concerns, issues and views of the community were integrated into strategic planning exercises such as the Greater Geraldton Region Plan and Region Structure Plan, the Local Planning Strategies and the Town Planning Schemes. In addition to these statutory planning processes the Project was also used to set City policy and guide budget priorities. The design and direction of the project was overseen by an Alliance Governance Group consisting of members of local government administration, Councillors, industry, NGO's and the community. The process was also strongly advised through academic input from Professor Janette Hartz-Karp of the Curtin University Sustainable Policy Institute.

Preliminary 2029 Project Activities

The 2029 and Beyond Project was initiated in 2010 and used a number of different techniques and methodologies for working towards its objectives. At the time of writing (2012) these included:

Launch of Sustainable Future City Region (March 2010) – community members were invited to a formal launch of the Sustainable Future City Region Project, which became the 2029 and Beyond Project, to listen to a panel of local and international experts discussing the critical issues facing Geraldton into the future and responding to questions from the community. About 400 people attended this launch.

Selection of Community Representatives to sit on the Governance Alliance Group (March 2010) – The purpose of the Governance Alliance Group was to provide a cross agency / local government / community / business oversight and input to the 2029 process. Eighteen nominations were received from the community for the community representative positions on the Group, three community representatives were chosen by random draw. The intention of the random draw was to have community input to the direction of the 2029 Project that was as free, as possible, of any vested interests. After one year of operation the Governance Alliance Group was not considered to be highly successful, because as is discussed later the government agencies and other regional local governments did not initially see the applicability of the 2029 Project to their “silos”.

Champions Team Training (April 2010) – The 2029 Project relied on building voluntary community engagement in the process and to this end forty-three community members volunteered to be Community Champions. These

Champions assisted by running some of the project activities in the community and helping to spread the word about the Project. They were trained in a number of deliberative democratic processes to with the objective that they would led community discussions about a shared future vision.

Community World Café Sessions (May - June 2010) – world café sessions were held all around the Greater Geraldton region through May and June. The volunteer Community Champions ran these sessions. A “world café” is an opportunity for people to have serious conversations about questions that matter to them as if they were sitting in a café. In these world cafés, community members discussed three questions:

- What is it about the Greater Geraldton City Region that makes it a great place to live for you and your family and friends? What do you most appreciate about it and want to keep into the future?
- Imagine the Greater Geraldton City Region in 2030 and it's a great place to live: What are the most important descriptions of your vision; what has changed?
- What should we be doing now to ensure the Greater Geraldton City Region is a great place to live in 2030?

A total of thirty-six world cafés were held with 395 community members participating overall. The world cafes included some that had a majority of Indigenous participants; others included a majority of youth participants, and a significant number included eleven cafés non-professional people. The intent of the World Café was to enable the citizens to drill down into the issues and provided nuanced and focused opinions about the future rather than aspirational statements that were too broad to turn into a physical reality.

Community Survey (July 2010) – a community survey was sent to 3000 residents who were randomly selected from the Electoral Roll that focused on two key issues that were of immediate concern to the City in its future planning:

- Whether the city region should expand to accommodate the population growth or encourage the mining industry to adopt a fly-in/fly-out model and thereby reduce the population pressure on urban infrastructure
- Whether the city region should invest in becoming carbon neutral.

Community Forum (August 2010) – the first community forum used the material that had been gathered from the earlier exercises to focus discussion on some of the big decisions the city region is facing and as a physical planning exercise to develop a community consensus about the future physical size and layout of the city. Expert speakers from different speciality areas provided input to this Forum including: city vibrancy, local economic development and creating walkable cities. The Forum used network computers on each table to submit comments and questions to the speakers while gathering the spread of community opinion and uncertainty. Using this technology speeded the flow of information around the Forum.

Throughout the early stages of the consultation the Governance Alliance Group was committed to identifying some specific, actionable projects identified by the community that the City could make happen and build the

citizen's trust in the process. The Community Forum was used to gather and prioritise these ideas from the community. These ideas are discussed later in this chapter.

Civic Evolution (2010 onwards) – This was a web-based, social media application that could be used for citizens to log potential projects with the City and gather support, and the City could then use to gauge the level of support and the specific nuances of the ideas when considering whether the project would be supported into the future.

Subsequent 2029 Activities

Following the initial stages of the Project, the activities undertaken could be broadly considered as diverging in three directions. Firstly, continuing with the specific 2029 Project projects that directly related to the Community Charter and various town-planning processes; secondly, delivering on specific projects that had been identified in the early stages of the consultation as being “trust builders” between the City and the community; and thirdly, continuing the consultation process about the shape of the future and community priorities by piggy-backing the consultation on other community events.

One of the key factors that emerged in the earlier consultation that the later consultation sought to address was trying to capture the “Geraldton Feel”, what were the quintessential elements that made Geraldton and its surround unique. Articulating this was vital because the community had delivered a strong message that the “Feel” of Geraldton should be the thing that was preserved throughout the changes.

These activities are discussed below.

Planning and the Community Charter

Designing our City (August 2011) – The forum was a charette style process that ran over three days and was attended by over 250 community members. A mixture of community members and a team of experts ran it. Its objective was to prepare a conceptual layout for the future development of the City. The activities were designed to develop the vision and objectives for the City, discuss significant issues and debate trade-offs to develop a preferred option for the City's future layout.

2029 and Beyond Community Charter Endorsement (February 2012) – After the ideas that emerged from consultations had been refined and packed into a single document it was presented to the City Council which endorsed it to be used as a tool to guide decision making by the City's administration and the community.

2029 and Beyond Community Charter Launch (October 2012) – The Community Charter was launched publicly at the *Geraldton Feel Sunset Picnic* (discussed below) and was available for the community to use in its future planning.

Community Action Planning Workshops (October 2012 onwards) – Following the format of the Designing Our City Forum the City decided to drill down to a suburb level to develop plans together with the community to increase the liveability of the place they call home. The first workshop was run in the suburbs of Rangeway, Utakarra and Karloo, identified as areas with the most opportunity for improvement. A series of workshops were run to provide the community with the opportunity to create a shared vision for these areas and to develop a plan to achieve the vision. Subsequent workshops were run in other parts of the City.

“Trust Builders” – projects to establish the bona fides of the 2029 Project

Early in the 2029 Project considerable cynicism was expressed by parts of the community that this was “just another feel good consultation” and nothing would actually happen. Because of this the City committed to implementing key projects identified by the community early in the consultation. These projects are discussed below:

The MAOA Project – the City partnered with the Midwest Aboriginal Organisations Alliance (MAOA), the peak regional Aboriginal chairpersons and organisations’ leaders alliance and the Combined Universities Centre for Rural Health (CUCRH), the peak regional health research organisation, to develop solution-focused, evidence-based, stakeholder-endorsed strategic action across five Aboriginal-identified priority areas. These five areas were housing, health service cultural security, education, justice/safe communities and supporting culture.

In September 2011 the MAOA Health sub-project commenced followed by the MAOA Housing sub-project in October the same year. The City’s decision to target the suburbs of Rangeway, Utakarra and Karloo in its detailed design of suburbs in its first Community Action Planning workshop (as is discussed above) was because these suburbs had high numbers of Aboriginal residents and they had been identified in the MAOA Housing sub-project. In this way the City sought to show its commitment to follow the community’s direction.

Million Trees by 2015 – The City of Greater Geraldton partnered with Men of The Trees to plant one million trees by 2015. This was a top priority issue identified by the community during the World Café consultations in the initial phase of the 2029 and Beyond Project. The objective was to provide shade, improve aesthetics, revegetate barren areas around Geraldton and Mullewa and strengthen biodiversity. The trees will also help the City offset its greenhouse gas emissions.

Community Gardens – The City set aside small amounts of money to support community groups who wanted to establish community gardens. Locations were identified in the suburbs of Strathalbyn, Beachlands and Drummonds, and a City staff member had time allocated to support communities wanting to establish gardens.

Chapman River Wildlife Corridor – The Chapman River is the key ecological linkage between the coastal foreshore reserves, and tributaries of the Chapman River including Ego Creek, and Allen Creek and the Moresby Ranges. Its long-term aim was to protect, conserve and regenerate the corridor for a range of ecological, cultural

and recreational benefits. The City supported this by arranging a grant of approximately \$50 000, organising a “Friends of the Chapman Wildlife Corridor”, and allocating a City staff member’s time to support the group.

Why Not Wednesday – was an Active Travel program supporting members of the community dedicating one day of the week to walk, ride their bike, scoot or skate to work or school instead of driving. Those who participated would be rewarded by getting fit, happy, healthy, saving money, and helping the community in which they lived reduce congestion, reduce its carbon footprint, feel safer, feel more connected and finally earn a reputation as a cycling friendly, liveable City.

“Piggy Back” Projects – adding value by linking with other activities

The Geraldton Feel Sunset Picnic (October 2012) – One of the important issues identified in the community consultation, as outlined above, was that the people of Geraldton wanted to retain the “Geraldton Feel”, which could broadly be considered as reflective of a relaxed, friendly, egalitarian, sporting/beach/bush-orientated culture. This was also mixed with a can-do attitude and a desire to make things happen. In a landscape sense this recognised that both the natural and built environments had many unique elements that blended history and future development directions.

To articulate this “Feel” the City organised series of artworks to capture the “Feel”. The motifs from these artworks were put onto tee shirts and used in other City publicity. The “Feel” was incorporated into the branding of the City. The “Feel” was launched at a community picnic on the town foreshore with various events and entertainment. This picnic was also used as a time to get feedback about the design of the motifs and the 2029 and Beyond Community Charter.

IBM Smarter Cities Challenge and the NBN (August 2012) – The City of Greater Geraldton was one of the winners of the IBM Smarter Cities Challenge, an event where senior IBM staff were placed with selected local governments around the world for three weeks to review and advise these cities on how the city’s could best benefit from digital connectivity. This was coupled with Geraldton being one of the first Australian cities to be wired for the new Australian National Broadband Network and provided impetus for a City Digital Strategy. The City used the IBM Smarter Cities Challenge and supporting events to develop this Strategy. Two surveys, *Living in a Digital Geraldton* and *Connected Youth* were commissioned to measure residents’ current use of the Internet, barriers to greater participation and expectation for expanded services. The surveys obtained base line information from the community about the NBN and, more broadly, a desired digital future including their awareness of digital applications in everyday life, their level of current access, the access they would like, the digital applications they currently use and whether the City’s digitally provided services met the community’s expectations. It was also used to track public changes in digital attitudes, values, awareness and access over time.

An additional approach to the Digital Strategy was the establishment of *Community TRUSTees*. The role of the *Community TRUSTee* group was to assist IBM to develop their recommendations for Greater Geraldton to

become a Smarter City, ensure its relevance to the community and then to assist the City with the development of a digital strategy implementation plan. Over 4000 randomly sampled residents and 1600 year 10, 11 and 12 students were offered the opportunity to nominate to participate in, and work with the IBM Smarter Cities Challenge Team to discuss a series of topics surrounding the Internet and how the community uses its.

Combining Festivals (2011) – Historically the City had run the Big Sky Writers Festival, an annual writers festival. In 2011, because of the *2029 and Beyond Project*, the City combined this festival with the Australian national regional arts conference and what became known as the Big Ideas Festival. In addition to this the City jointly hosted the Australian national regional arts conference with Country Arts WA. The regional arts conference was an annual event where regionally based artists and art institutions met to discuss the future development of regional arts. The theme for the 2011 conference was *Open Your Eyes*.

By providing support for this event the City was able to piggy back the *Big Ideas Festival* on the event. The Big Ideas Festival brought international experts and opinion leaders together with artists to encourage the people of the City to either directly participate in individual projects or think about their role in creating a future sustainable city region. The art projects presented during the Festival were also used as a way of engaging the community and stimulating discussion and debate about the future of the City. These were supported by other activities such as workshops on sustainable housing, a home-grown garden tour, a 2029 and Beyond ageing seminar and other such activities.

ASSESSING THE EFFECTIVENESS OF THE 2029 PROJECT

At the time of writing the 2029 Project had another 12 to 18 months to run and any assessment should be seen as both interim and limited in scope. In addition, comprehensively assessing the effectiveness of the 2029 Project would be a huge undertaking. Consequently this case study does not seek to evaluate the effectiveness of each of the individual actions or why the decisions that were made occurred. Instead it makes the assumption that the 2029 Project was a forum that was created by the City to achieve, in the big picture, improved management of the resources that belong to all the citizens of the wider city region.

This moves the discussion of the effectiveness of the 2029 Project into the theoretical framework discussed above relating to the management of Common Pool Resources (CPR).

APPLYING OSTROM'S PRINCIPLES

Ostrom's eight principles were used to evaluate whether or not the 2029 Project would be likely to significantly help the City of Greater Geraldton work with the community to manage city region sustainably as a common pool resource. The approach taken was to review the material that was produced during the 2029 Project, and use guided interviews of people who were intimately associated with the Project. The output of this work was assessed against Ostrom's eight principles.

Ostrom used a number of specialist terminologies within her principles and consequently these were recast as questions, or thought starters, to assist the interviewees more accurately to identify the essence of the principle and apply it to the situation in the City of Geraldton and the 2029 Project. Ostrom's principles, the Thought Starter Questions to interpret the principle, and a summary of the response are provided below.

Principle 1 – Boundary

Ostrom's Principle 1 Demarcation of clearly defined boundaries to identify the members of the user pool as well as the physical boundaries of the CPR.

Thought Starter Question 1 Boundary

What boundary was used for the 2029 Project? How was this decided and did the boundary change when you were considering different factors, e.g. social, economic, administrative, and culture?

The responses to this question strongly reflected Ostrom's requirement of identification of the boundary as being applicable to both the social community of the group and the physical administrative boundaries. When talking about physical boundaries, the respondents, particularly those associated with the input to the Local and State Government agencies planning processes, used the boundary of the Western Australian Planning Commission's 2011 Greater Geraldton Structure Plan. The main reason for this was that most of the planning focus by both State and regional agencies was on the urbanised areas with significant infrastructure needs.

The people that were associated with other issues, for example social and cultural activities, economic development and civic administration, appeared to operate on a concentric model, where the urban centres¹²⁵ provided the focus of both interest and effort outside of which the attention decreased as the distance away from the centre increased. This concentric model was much more than just geography but seen in engagement by people in activities and dialogue about the 2029 Project. It also appeared that effective engagement either needed a certain critical mass of people to build a dialogue / activity, or alternatively a very strong community leader who was prepared to drive a process. This is discussed further in the discussion of "attractor projects".

The issues around the discussion of the boundary can be framed as, firstly, if there was a legislatively driven, geographic boundary linked to potentially powerful outcomes, for example planning and future urban development, then that geographic boundary was used. For non-planning issues the boundaries seemed to emerge from a complex interplay between the specific projects or themes, peoples' interests and motivations, and other external factors. The most obvious example of this was the marginal success of the Governance Alliance Group where, despite its clear boundary, its early apparent value to the success of the 2029 Project and its strong support early in Project¹²⁶, it did not actually operate effectively. In contrast the MAOA Project which had many reasons to fail – such as diffuse boundaries, potential conflicts between stakeholders, a very large

¹²⁵ The city of Geraldton was by far the biggest of these but activities were also generated around outlying towns such as Mullewa
¹²⁶ And consequently being the "most likely to succeed"

scope of activities, and a low capacity to deliver in some cases; has turned out to be one of the major success of the 2029 Project.

This apparent discrepancy is discussed later in terms of “attractors” however much more research identifying the common characteristic of these attractor projects still has to be done.

Principle 2 – Allocation of Effort

Ostrom’s Principle 2 Congruence between appropriation and provision rules and local conditions requires appropriation rules (regarding the time, place, acceptable technology, and quantity of CPR allocated) to be specific to the characteristics of the actual resource; similarly, the rules governing the contribution required of each appropriator must mirror local conditions.

Thought Starter Question 2 Allocation of Effort

What decision frameworks or assumptions were applied to determine the allocation and type of effort in the different parts of the 2029 Project? What expectations were placed on the citizens for their engagement? On reflection, do you think that this was the most suitable allocation for Geraldton’s circumstances?

The responses to this question were less confident, and did not demonstrate the clear thought found to the boundary question above. As the discussion proceeded it became apparent that the participants *had* developed their own heuristic “rules” for appropriation and provision, and these were linked to an understanding of the local resources and conditions; but at the time of the interview the respondents were not conscious of these rules or conceptualised them as “rules”.

With this in mind the following comments are made. Firstly, the issue of formalised structures, both physical and administrative, versus attractor projects seemed to characterise the formulation of these “rules”. An example can be seen from the planning process. Legally the City had few, if any, formal powers to take on the role of organising the deployment of State and Federal resources, however because the 2029 Project had articulated a vision for the future¹²⁷ and specifically linked this vision to planning structures and decisions, the City began to be seen as the “go to” place for resolution of conflicts and brokering of deals between State Government, infrastructure providers, developers, community groups and individuals associated with planning decisions. The neo-con economic focus of State budget allocations meant that State agencies were caught in a Tragedy of the Commons dynamic and were in no mind to cooperate, even on common planning. The fact that the City had an integrated vision, and was able to talk to the top levels of the State and Federal Agency silos, meant that it was able to make things happen. This was recognised and appreciated by those outside the City.

The interesting thing was that this role of developing “heuristic rules” was not recognised or given real credence by the City staff, where the feeling was “well... that is just what we do”. Under this arrangement the City was

¹²⁷ This would align with Ricoeur’s idea of a strong narrative identity in space and time

fulfilling a real CPR role sitting between the command and control of centralised management, which would be very difficult to implement legislatively, and complete privatisation that would be societally and culturally inappropriate.

With respect to the attractor projects, e.g. MAOA, the understanding and articulation of the heuristic rules was even less well discerned by both the staff and the community. It was obvious that there were some common characteristics that linked the attractor projects, e.g. leadership, articulated vision, but it was very clear that there was very little understanding or acknowledgement of what these rules might be or what components or characteristics would be required to create an attractor project. Despite this some of the features that could be identified were many of the community participants in specific projects, e.g. Chapman River Park, had a strong identification with the project and saw it as “theirs” rather than “the City’s”, there was often a clear vision shared by many people about what was wanted and there was a significant information and/or resource base that could be tapped into to create the project¹²⁸.

This area of identifying the heuristic rules of allocation and resources represents a major opportunity to develop the CPR approach within the 2029 Project. The issue is not that rules are not being developed, but rather that they are not being consciously described and, once consciously identified, modified and improved.

Principle 3 – Involvement

Ostrom’s Principle 3 Collective choice arrangements allow participation by all affected individuals in deciding on the appropriation and provision rules.

Thought Starter Question 3 Involvement

How well did the citizens of Geraldton get involved in the 2029 Project? How much were these people able to affect how the process unfolded and the priorities for focus of effort?

At its core the 2029 Project was orientated towards increasing deliberative democratic processes and the engagement of citizens in planning and implementing their future. Unlike the CPR projects studied by Ostrom the 2029 Project was more about adequate representation, rather than total engagement of all participants, given that the population of Greater Geraldton and the hinterland was between 45 – 50 000 people.

Throughout the deliberative democratic process considerable effort was put into building engagement. Some of this used formalised engagement techniques and their effectiveness was measured using standardised research studies such as surveys, interviews. All these formal assessments¹²⁹ showed high levels of satisfaction with the individual events. Other engagement methods, such as discussions during other events, social media discussions, were more informal and orientated towards building the narrative amongst the citizens of what the

¹²⁸ there are some links in this concept to the idea discussed earlier in the section about thermodynamics of self organising systems.

¹²⁹ City of Greater Geraldton Community Survey and Deliberative Forum Results (2011), *Designing our City’ Forum – Pre and Post Forum Survey Results (2011)*, *Rangeway Utakarra and Karloo – First Community Workshop Survey Results. (2012)*, *World Cafés Combined Results (2011)*, *World Cafés Section 1 - Priorities for action (2010)*

2029 Project was about. The outcomes from these informal engagements were harder to identify and monitor, but two examples are illustrative. Firstly, when the original Designing-our-City workshop was run, most of the participants who were not professional planners or City staff did not understand what was expected of them or what the format or outcome of the workshop would be. Consequently a considerable amount of education and information about the theory and practice of workshop-based design had to be communicated to the participants before the actual work got under way. Twelve months later the next Community Design Workshop was a completely different activity. The participants arrived understanding the objectives of the day; they were well engaged in the process and had very high ownership of the outcome. Even more astounding was the level of technical knowledge of sound urban design principles that the attendees demonstrated. As I commented to one of the other designers present, "Well let's go off and have a beer because these guys know how to do urban design and we are out of a job!" Over the previous twelve months enough understanding of both the reason for the workshop, the design process and the technical skills had filtered through into the community in an almost osmotic manner, which made them very ready to (almost) run their own community design process.

Secondly, in mid 2012 the Council decided on a budget that resulted in significant rate rises, on an average of 27%. The reason for this rise was to rebuild assets that had been allowed to degrade under previous administrations, build new community assets some of which had been identified as needed through the 2029 process, and prepare for future growth of the city, particularly in the area of infrastructure. This increase in rates provoked a very significant outcry amongst some sections of the community. A special meeting was called by the anti-rate rise organisers which about 400 people attended; this was followed by special Council meeting at which people could formally put their complaints to the Council. About 65 people attended this meeting. The significance of these numbers can be seen when comparing the numbers of people complaining about rate rises with the number of people and person hours¹³⁰ of those engaged in the 2029 Project. It is very apparent that those with a high level of self interest, i.e. did not want to contribute to rate rises because it disadvantaged individually, were far outweighed by the numbers of people who had given huge amounts of voluntary time to planning the future for the City.

Consequently it can be said that there were a very significant number of opportunities for the community to be involved in planning the future management of the City and the participants far outweighed those who were motivated to act in individual self interest.

Principle 4 – Tracking Performance

Ostrom's Principle 4 Either the appropriators themselves or persons accountable to the appropriators are responsible for monitoring compliance with collective decisions.

Thought Starter Question 4 Tracking Performance

¹³⁰ City estimates put this in the vicinity of 2000 people many of whom were repeatedly engaged. Much of this engagement required the commitment of many hours and, in some cases, days over the year

What opportunities were there for the people of Greater Geraldton to decide what would be the outcomes 2029 Project? Who checked if this was occurring? How was the 2029 project modified in the light of this feedback?

As has been highlighted earlier there was considerable opportunity for the community to have input to both the outcomes and the design of the process. In addition a range of commitments was made at various deliberative processes about what would happen with the output. Examples of this included the Community Charter that was the synthesis of the early 2029 work and provided a framework for all the City's internal strategic planning and operations. Another example was the "trust builder" projects established early in the 2029 Project. These were tangible examples of the City keeping the faith with the community.

In a structural sense the 2029 Project majorly shaped the future physical planning of the City and provided overarching guidance through the Community Charter to the City's programs and policies. There is however another layer to this discussion that is still to be tested over the long term. This layer is about how to translate the overarching issues and policies in the Community Charter into functional realities in the City. As one of the City staff that was interviewed commented "Our previous engineer understood the concepts and was able to translate them into practical things like cycleways, our new engineer is more traditional and tends to do business as usual". Similarly there is also a level of fine grain detail in the liveability of the City that could not be captured at the level at which the current planning is occurring, for example building details, and streetscaping. These types of things pivot around how well the citizens and businesses understand the narrative of what 2029 is about and how well they are able to translate this into their own sphere of activity, and the reason for this emphasis on narrative is that narrative tends to speak to, or fill in the details between, the big topics typically addressed by planning systems.

At the time of writing the City was investigating how to open up its budgetary process to deliberative democratic processes. This was partly because of the furore over the previously mentioned rate rises but also because it represented the next logical step in opening up the City to democratic processes. This feature, if implemented would have a significant bearing on ensuring a closer connection, which could be interpreted as compliance, between the citizens and the City.

Principle 5 – Sanctions

Ostrom's Principle 5 Sanctions should be graduated to reflect the severity, frequency, and context of the violation.

Thought Starter Question 5 Enforcing compliance

What penalties or sanctions were, or could be, put in place to ensure compliance with the outputs of the 2029 Project?

The question of sanctions was not well developed within the thinking of the people who were interviewed. In response to the question a number commented that it would be a very good idea if there were some in place, however the general feeling was that the 2029 Project sought to move decision making away from the traditional command and control model of local government and, as such, sanctions would be a retrogressive step and not in keeping with the intent of the Project.

Having said this, there was a form of indirect sanctions for non-engagement built into the 2029 Project. Across the Project benefits came for those who were involved, for example, through projects being implemented and supported by the City. There were a number of clear messages given throughout the 2029 Project activities that if you are not involved and your voice is not heard then don't expect to benefit. Examples of this were the trust building projects described above. Another place where these indirect sanctions were apparent was through the role of the planning department, discussed above, as the go-to place for resolution of problematic planning decisions. While the City planners worked according to the regulations and requirements of the Western Australian Planning Commission they found it easier to do their informal role of brokering arrangements for specific projects if the projects could be seen to support the objectives of the 2029 Project and the planning processes that supported it.

Principle 6 – Conflict Resolution

Ostrom's Principle 6 Low cost and readily available conflict resolution mechanisms must exist to mediate conflicts among appropriators and between appropriators and officials.

Thought Starter Question 6 Conflict Resolution

How were conflicts identified and addressed (either between citizens or citizens and City staff) and how effective was this?

Because the 2029 Project was designed as it evolved there was ample opportunity to create new mechanisms and activities by which conflict could be resolved. As has been referred to above, the furore that surrounded the rate rises and the ensuing response by the City to open up the development of the budget to democratic processes is an example of a conflict resolution mechanism that evolved as the 2029 Project unfolded.

At a more detailed, or finer level, conflicts were relatively easily resolved because Greater Geraldton is socially a relatively small place and it was easy to have access to City officials or Councillors and for people to get together informally to work through their differences. In addition there were a number of community champions who operated as informal brokers or go-betweens to reduce tensions, assist people find common ground and generally make things operate smoothly. In addition there was a sufficient number of people who worked cross sectors and interest groups to help facilitate conflict resolution, examples of this included Aboriginal people who worked for the City but were also active in their own community and people from the arts industries were also active in service clubs. Whether this highly effective informal process of conflict resolution will operate effectively

as the city grows or whether more formalised resolution mechanisms will be needed will have to be monitored in the future.

Principle 7 – Self- Organisation

Ostrom's Principle 7 Users must have recognition of their own rights to organize institutions.

Thought Starter Question 7 Self-Organisation

What opportunities are available through the 2029 Project to create new initiatives and organisations and are the citizens taking advantage of these?

In Ostrom's work the capacity to "organise institutions" explored the question of whether overarching political or commercial processes would stop people organising themselves to manage a CPR, for example government agencies would not allow fishermen to self-organise the management of their fishery. In this case study this has been recast to look at whether the City allowed projects to be generated by the citizens, instead of the City staff, and whether the City was supportive of projects outside its direct control.

From the start of the 2029 Project there was opportunity for citizens to organise their own projects. Early in the 2029 Project a web-based application called Civic Evolution (Sullivan, 2012) was deployed to provide a platform for people to create their own initiatives. Civic Evolution was built in response to Clay Shirky's work on engagement and how to organise communities without formal organisations. Shirky's premise was that communities can self-organise if there is a definitive and concrete deal or promise in which people can be engaged and this can be constructed as a bargain where it is clear what the participant must do to get access this deal. He is also of the opinion that we must structure social media tools to support these negotiations and agreements.

A customised version of Civic Evolution was provided for the citizens of Geraldton to register a project online and build an online conversation around the project, its ownership and development. Civic Evolution is, in some ways, a social media tool albeit with a social entrepreneurial flavour. As such it was competing for the interest of Geraldton citizens with other, well-established social media platforms such as Facebook. Consequently its success could only be described as very limited because, despite it being perfectly tailored to its task, it just did not appear to be sufficiently accessible, familiar, relevant or interesting to its audience. People could discuss local issues and projects on Facebook if they wanted to, and Facebook was seen as being a lot more personal and interesting than Civic Evolution. Interestingly a local Geraldton digital entrepreneur has built a webpage and smart phone app¹³¹ with very strong Facebook linkages that is attracting very good patronage and is being used, informally, in the way intended for Civic Evolution.

¹³¹ Everything Geraldton <http://everythinggeraldton.com.au/> viewed 10 October 2013

In parallel with Civic Evolution there were other formal opportunities provided by the City for people to respond to the 2029 Project such as the trust-building projects described above, and the MAOA project which emerged out of the World Café consultation process. With informally developed projects, where people came up with a good idea independent of the City's programs, they would often develop these on their own initiative but within the general intent of the 2029 vision and then get the City's support for their activities when required. One example of this was Pollinators¹³², a social entrepreneurial organisation that developed community workspaces, pop-up events, entrepreneurial training and other related activities. Pollinators was largely the brainchild of one person who grew the project into a large organisation. The City provided support through using Pollinators' services and sponsoring some of its events but was not instrumental in its initiation or ongoing organisation.

In summary there were many opportunities, both informal and formal, provided by the City for people to organise their own institutions and this is also reflected in a growing ethos of self-determination and organisation with the Greater Geraldton community.

Principle 8 – Upward Integration

Ostrom's Principle 8 Nested enterprises, i.e., sets of rules established within a hierarchy of appropriator institutions, must be established for common-pool resources that are within larger resource systems and political jurisdictions.

Thought Starter Question 8 Upward integration

How is the 2029 Project being integrated in the wider Local, State and Federal government processes? How is it integrating into other decision-making frameworks e.g. corporate energy or transport infrastructure planning, residential housing developments, and party political decision making?

The question of self-organisation and providing places where people can contribute was at the heart of the 2029 Project. This, however, was not matched by a similar initiative at the State and Federal Government level. Essentially while the 2029 Project represented a strong redirection of how decisions were made in the City of Greater Geraldton, this was not matched by a similar strategy out of the State and Federal government. On first assessment it appears that this would be a major problem and in some cases it was, particularly for example in providing large-scale infrastructure, e.g. rail and energy links, hospitals, where the decisions to install the infrastructure were embedded in a centralised command and control style of government. This was not all bad for three reasons. Firstly, because of the remoteness of Geraldton and that the State Government's resources were stretched to the limit, local initiatives that alleviated the impact on the State and Federal budget were seen as positive at both the State and Federal. As one of the interviewees described, "... the State dropped the ball on regional development a long time ago so they are grateful when someone does anything!" Secondly, as has been discussed earlier, the informal brokering of deals enabled the City to strongly influence what was occurring in the region even if this was outside its legal jurisdiction, mainly because it had a coherent vision for the region

¹³² <http://wildpollinators.org> viewed 5 October 2012

and could see where State and Federal resources could be deployed to support this vision. Thirdly, when a State or Federal initiative arrived that was not strongly aligned with the 2029 Vision it was relatively easy for the City to regulate its level of engagement in this activity and there-by save resources and time.

SUMMARY

This case study started from the premise that the sustainability designer needs to create a forum, or a working space, where sustainable systems can be created. This working space can be physical, informational, cultural or a combination of all of these. The underlying premise was that sustainable systems need to be designed to help manage Common Pool Resources in a way that takes the middle path between centralised command and control systems and the privatisation of common resources. The character of these middle path systems has been researched by Elinor Ostrom and eight key principles identified. These were applied to the *2029 and Beyond Project*, a deliberative democracy process run by the City of Greater Geraldton.

Looking at how the City responded to these key principles it would appear that 2029 Project is generally incorporating most of these principles and is therefore likely to produce a sustainable system. At this fairly cursory level of examination it appears that the City is strong in the areas of creating opportunities for people to create new institutions, and in tracking performance of the activities against intentions.

The City also has a very real role in making regional development, along the lines of the 2029 vision, happen. As has been discussed a lot of this occurs in an informal manner and the City is often not aware of, or is discounting, its role as a broker and organiser. This could be improved if the awareness of the “rules” which have evolved by which guide this role were more clearly identified and articulated as part of the City’s narrative.

Conflict resolution is working reasonably well although there are questions as to how well these largely informal systems will work as the population increases, and while enforcing compliance is occurring in a default manner there may be opportunity, as the Project unfolds, to create more formalised requirements for compliance. Increasingly tying real world accountabilities for engagement in the 2029 Project, e.g. linking community contributions by the citizens on community projects to the City budget would also help build engagement.

Two interesting areas need further exploration. One is that of identifying the reasons why some projects seem to demonstrate “attractor” phenomena, that is that some projects are able to draw in support and resources while others, that apparently have equal merit, are not able to gain support. There are strong resonances in this idea with the discussion in previous chapters about Complex Adaptive systems. This needs much further research, however some indications of what may be occurring is as follows. Firstly, it appears that the command and control vs. privatisation spectrum has some influence. If there is a project around which there is a pre-existing legal framework, e.g. planning permission, then the projects may be well supported. On the other hand if there is a big private benefit, but which may not necessarily be expressed as private ownership, then this also attracted

support¹³³. Secondly, there is a complex relationship between a champion and a good idea. If a person who was recognised in the community as being a leader got behind an idea then it was more likely to be supported. Thirdly, it appears that if by supporting a project a group got access to significant resources that will enable it to project major beneficial change it is more likely to become an attractor project, an example of this the MAOA project. Fourthly, if the vision or the narrative is compelling then it seems that people will sign up for the project. An example of this is the strong commitment to preserving the “Geraldton Feel” and how much this concept has underpinned much of the 2029 Project.

Another major question that will have to be considered by the City is what will happen as the City grows? At present the small population, despite the large geographic area, makes it easy to work at the personal and informal level to discuss issues and implement change. Whether this will continue to operate and be effective as the City grows will need further consideration.

On the evidence presented in this case study it appears that a designer can use the idea of a working forum, guided by Ostrom’s Principles, as a useful design tool to create sustainable systems, however this study could only be safely classified as a proof-of-concept. Much more work using both qualitative and quantitative measures would be needed to firm up its use as an assessment tool. Nevertheless it can, like much of the investigations in this thesis, point towards a very useful tool for a sustainability designer.

¹³³ For example, one of the champions of the 2029 Project strongly promoted the idea of building ocean baths because they particularly liked the idea, despite the huge capital and maintenance cost involved

Chapter 11 – Conclusions and Further Work

Conclusions

And so we come to the conclusion, the place where all the above lessons learned are summarised and the answers to the key questions are suggested. It is also, as was discussed in the Introduction, a highly personal journey and while it is unique in that it is personal it is not unusual. Many other people working in the same field will find resonances, even if there is not a complete identification with these concepts. In essence this thesis is a practical working out of Ricoeur's *ipse* and *idem* identities. There is a *selfhood* in that it is a personal story but at the same time there is a *sameness* in that it will be recognised by other people as also being their experience.

Similarly there is an underlying tension between whether this thesis is a statement about the actions of a designer as a design process unfolds in time or whether its about a series of themes or activities that intermesh and are used together to address particular problems. Both of these are true and as Ricoeur indicates they should be held together because this is the nature of identity.

The thesis was framed around the following question:

“How do we link sustainability and design to begin the definition of a new profession of *sustainability designer* and what is the underpinning construct that will drive their practice?”

The links between sustainability and design were forged early in the thesis by suggesting they are qualitatively similar concepts or processes, in that they are both about artefacts, processes and disciplines. A second point of alignment between design and sustainability can be summarised as recognising that the issues that drove the emergence of sustainability in the 1980s are typically *wicked problems*, that is problems that are intractable, complex, have multiple causes, and the definition of the problem and apparent solutions are recursively embedded in the cause. Design is also characterised by addressing complex problems which are resistant to cook-book approaches.

To investigate the solutions to wicked problems I began the journey by investigating the ‘underpinning construct’ of a new profession that links sustainability and design. By seeing the roots of wicked problems in modernism which seen as being the child of a modern-classical view of the world some clues of how to proceed were identified. Modernism is characterised by a belief in the ascendancy and independence of human thought, the ability of the self-aware individual to unfold their self-defined initiatives onto the world as an empty canvas. Now this can often be done with noble intentions, to solve human problems, however as is identified by many writers, these efforts often only add to the wickedness of the problem. To support this position the historic descriptions of wicked problems by Rittel were examined, and examples of who else is thinking along similar lines were presented.

The core of modernism is a particularly individualistic understanding of the identity of the human captured in Descart's statement of "I think therefore I am". This framework gives permission for all sorts of well-intentioned, and not so well-intentioned, actions that more often than not are instrumental in creating and exacerbating the types of sustainability problems that designers seek to address. Against this I have taken the work by Paul Ricoeur who sees human identity as a blend of selfhood and sameness within a spatio-temporal narrative framework that is unfolding over time. In this context the individual is a product of this narrative and can affect and shape that narrative into the future.

From analysis, and my personal experience in the many case studies set out in this thesis, five main components of design practice have been identified as being prerequisites, to a greater or lesser degree, for design-based solutions to wicked problems. These can have a sequential nature, that is, some of them tend to come before the others, while as has been also pointed out they are all interconnected.

Firstly, the designer needs a good understanding of, and the capacity to recognise **unfolding narratives**. This is important because it is converging narratives that create wicked problems. It is also important that the designer has a good understanding and consciousness of their own personal narrative and how these narratives change their work and how their personal narrative is changing the project. This is a great defence against both the deathly grasp of *modernism* that is generally blind or powerless to deal with convergent narratives; or the swampy backwaters of *post-modernism* where the only place for the designer is a retreat into interpretations of sensations and awareness of the existential impact of these convergent narratives.

Secondly, with the understanding of multiple narratives and their own narrative the designer has the challenge to work out if, when and how they should **intervene** in a particular circumstance. In this context the "if" is of particular importance because many well-intentioned interventions can often only add to a particular problem. Given that the designer has to descend into the convergent narratives, the nature of their intervention should ideally be as a member or insider of a group that is working on the problem, and this group's identity and narrative should not be defined by more traditional polarities such as gender, race, economics and politics that are associated with *modernism*. The designer and group should define itself by the project on which it is working seeking deeper and original solutions than those in the 'manuals'.

Thirdly, based on this insight the designer has the challenge to work out what form of **leadership** is required in their work. At different times this will have to change, in the heroic model the designer will take a lead role to define, engage, empower the group to undertake the task at hand; at other times the designer will need to step back from the heroic leader position and become the consensus leader and animator¹³⁴. In this case the concept of animator is more than just a facilitator but in the context of its semantic origins - someone that brings life to a situation.

Fourthly, at some stage a **physicality** has to be created. While a physicality can be an object or artefact it can also be a process, the main feature however is that it has to have a real world character about it and not be left at

¹³⁴ A good discussion can be found at <http://www.infed.org/animate/b-animat.htm>

the aspirational or notional level. Creating physicalities requires that there is both a strong narrative and principles that translate into targets that will define what the thing is about. These targets need some form of metrics to determine what has been created and how well it is fit-for-purpose and also need to be informed by analogues or “make-it-like” statements. The importance of the analogues is that it directs links back to the idea of narrative and identity and brings to consciousness what the narrative is about and how much of a departure it is from the existing narratives.

Finally, the designer needs a space in which to work, a **forum**, which can be a mix of information, culture, and physical places. The objective for the designer should be to create and use this forum to organise the effective management or development of a resource that is common to the participants. The designer should be able to build into the design process the forum principles such as recognition of heuristic rules, incorporating the participants in the organisation of the design process and by incorporating these principles it is more likely that the outcome will be a sustainable system or product.

Further Work

The on-going process of developing this new ‘sustainability designer’ practice will need to be followed closely and evaluated to see if the five suggested components are indeed helpful for framing solutions to the wicked problems. Each of the components of the thesis has many unresolved areas awaiting further investigation. These are elaborated below, and generally follow the structure of the chapters.

In the discussion about **sustainability and design** the common touch points were that both subject areas were ill-defined but could be linked in that they both covered products, processes and disciplines. It was also suggested that solving wicked problems needed design-based approaches. Around these touch points there is room for investigation. Firstly, the conceptualisation of wicked problems used in this thesis is that a modernist view of the world creates wicked problems and that science based in modernism will inevitably make wicked problems worse. Despite this the question arises “Within confined boundaries, are non-design based approaches to sustainability, such as check lists and compliance tools, likely to be more or less effective than intuitive and holistic design approaches advocated in this thesis?”¹³⁵. To a certain extent this was explored in the Chapter on Physicality, but more work is possible. Secondly, and this reflects some of Stuart Walker’s investigations, there is need for a broader re-examination of the nature and identity of a sustainable artefacts. One guiding question would be - “Define and develop a framework for assessing the role of reuse/repurposing of both big (even cities?) and small artefacts in the creation of sustainable systems?”. This can be extended into - “what must be done to an artefact or process that will make it more sustainable, and when does this transition occur?” Thirdly there is opportunity for a more comprehensive mapping of the sustainability and design space that would enable different professional practice to be mapped onto the space and improve the understanding of where practitioners are working. As a research question this can be framed as “what is the degree of overlap and exclusion between the disciplines of design and sustainability?”

¹³⁵ One place where this could occur relatively easily would be to compare *compliance* based sustainability building assessment tools, such as Green Star or LEED, with target orientated tools such as One Planet Living

The point of linking **sustainability and addressing wicked problems** is well developed, however the contention that wicked problems are a result of convergent narratives still needs more investigation. Much of the work reviewed in this thesis presents wicked problems as a description of a phenomena, or something that just “is”. More work is needed to tease out whether, and how, narratives converge to build a wicked problem. In addition more work is also needed to define what constitutes a “narrative” in the context of sustainability. Although Sparrowe’s work on narrative is discussed in the chapter about leadership the direction that he is following could be broadened into an investigation of wicked problems and not just leadership.

Chapter 4 **Narrative Identity and Sustainability Design** is the core to the theoretical framing of this thesis and it is readily acknowledged the analysis is only the barest skimming over Ricoeur’s work. There are so many leads that can be followed particularly as Ricoeur’s work swings between the consideration of the individual and their presence in the group in space and time. This has been useful in considering the role of the design practitioner, however many sustainability challenges relate to the narrative of one group in the context of a wider group. This needs more investigation. This thinking can also be extended to the need to examine the role of narrative to immerse humans positively, both individually and collectively, into the ecology and economics of the real world. This is a very real challenge because the modernist prescription places the human outside the real world.

The role of narrative for the designer was tested in chapter 5 where I wrote one of many possible **personal narratives** to indicate how that narrative linked with my design practice. In the context of a narrative identity and design practice this was immensely valuable, but also required walking a narrow path between general blandness and self indulgent psychoanalysis. More research and guidance for practitioners on how to explore their individual narrative and linking that to their design practice would be useful.

Understanding and building **narratives** was explored in the stories taken from Vietnam because it was culturally a very unfamiliar context. But more work is needed to help designers to understand how identify and extract narratives from the circumstances into which they enter, to identify their personal narrative and where, and how, this intersects with the narratives into which they have immersed themselves. Further exploration is also needed to look at how to compare these narratives against Ricoeur’s ideas of the practice, norms, ethical aims and the narrative unity of life. This framing will help the designer protect themselves against the self aggrandisement of modernism or the vagaries of post-modernism.

When a designer **intervenes** and/or takes on a **leadership** role they enter into a complex dance that works across the insider-outsider dynamic discussed by Crocker. More work is needed to explore this multidimensional space and to better understand relationship between the style of leadership, type of intervention and relationship to both the group and the project.

To create **physicalities** the designer has to sustain both a coherent narrative which gives shape and form to the project and at the same time mirror this with metrics, targets and analogies which brings rigour to the work. Much more work is needed looking at how these two disparate and qualitative different processes can be brought

together. One area of investigation would be how to develop a comprehensive design processes that start with developing a narrative, identifying its crucial points of transition, then determining how to assign metric and targets to different parts of the narrative to guide the design process.

The concept of creating a **forum** that operates under the principles of Elinor Ostrom sits as a guide for design processes with more work needed to examine how each of these principles can be unpacked in the design process particularly in a team context.

And finally ...

In the image in the Introduction convergent narratives are shown as entering a forum where interventions occur, physicalities are created, and change is implemented. On the right hand side of the image the output is described as an incomplete narrative, and in this context the final word comes, once again, from Paul Ricoeur:

Action, in its political dimension, constitutes the highest attempt to confer immortality, if not eternity, on perishable things. To be sure, power has its own fragility, since it exists only as long as people act together and vanishes when they disperse. In this sense, power is the model of an activity in common that leaves no work behind it and like Aristotle's praxis, exhausts its meaning in its own exercise (Ricoeur, 1992 p.196).

The capacity of modernism is to create an edifice to ourselves and to demonstrate our ability to create our own reality – the attempt to confer immortality. The wicked problems that result are the Faustian bargain around this huge capacity. The role of the sustainability designer is to undo these wicked problems and create new futures. But even while we are organising these noble actions and enabling people to work together on common problems the designer must at all times realise that all our efforts will be partial, we are only part of an ongoing process and the new narratives we create will be limited in their effectiveness. We will never be out of work – so on with the job.

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